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DISORDERS OF THE PITUITARY GLAND

RETROSPECTIVE AND PROPHETIC *

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BOSTON

AN ALLEGORY

We find ourselves embarked on the fog-bound and poorly charted sea of endocrinology. It is easy to lose our bearings for we have, most of us, little knowledge of seafaring and only a vague idea of our destination. Our motives are varied. Some unquestionably follow the lure of discovery; some are earnest colonizers; some have the spirit of missionaries and would spread the gospel; some are attracted merely by the prospect of gain and are running full sail before the trade wind. Traders, adventurers, even pirates are certain to follow on the heels of exploration. In every profession, even ours, are to be found those who gather up beads of information of little intrinsic value which are exchanged for the property of credulous people, as gullible as the natives of a new-found land. Thus do discoveries become exploited and there were discreditable chapters in the histories of all the Great Companies of days gone by.

The impulse which launched us in such amazing numbers on our several missions some future historian may have to tell. There is nothing comparable to it, for the development of a specialty is usually a very slow process, but the endocrinologist seems to have generated spontaneously everywhere.

To our present short sight it would appear that this sudden enthusiasm to put to sea under the pennant of the ductless glands was largely influenced by the chance discovery in 1909 that certain hitherto uncharted though easily recognizable disorders are due to a state of pituitary insufficiency. There followed a deluge of papers,[1] and soon after, the endocrinologist came into being, with the establishment a few years ago of this association whose official organ represents a sort of mariner's almanac of the subject.

This organization has become, indeed, a sort of geographic society, and though from time to time it may unwittingly foster the publication of supposed discoveries which may long delay progress, these are merely comparable to the errors of the geographer of old, who assumed that he was in Cathay when he sighted the Bahamas and later spent much unprofitable time in the broad mouth of each new river looking for a northwest passage which wasn't there. If this organization is to play its proper rôle it should act as a much-needed stabilizer which, by proper recognition, will enable the profession and the public to distinguish the Cooks from the Pearys of our profession; for though imagination is a desirable quality in research as well as in exploration, it must be disciplined and, even so, cannot be drawn upon in making out official reports.

To be sure, if our allegory may be continued, there have been many independent and notable voyages in days gone by. Though the Frenchman, Théophile de Bordeu, was among the first to state the modern theory, his was purely theoretical reasoning, as Fielding H. Garrison [2] says, with "an intolerable deal of verbiage spread over the smallest substructure of fact." But many actual, though isolated, islands of fact came to be subsequently encountered and charted by Parry, Claude Bernard, Addison, Brown-Séquard, Kocher, Marie, von Mering, Gley and others. They made the discoveries. Colonizers followed in their wake. But no one could venture to say whether the lands in this new archipelago were good for much or whether the mainland had even been attained.

The thyroid alone was within easy reach and had been thoroughly surveyed before the beginning of the century. The importance, too, if in lesser degree, of the islands of Langerhans had been recognized, though their inaccessibility was a deterrent to colonization. But, despite their importance individually, even thyroid and pancreas until recent times appeared to have nothing more than a theoretical interdependence. As for the other glands, aside from their latitude and longitude, no prolonged interest was manifested even when Brown-Séquard, the Ponce de Léon of our predecessors, thought he had in reality found the fountain of perpetual youth.

HYPOPITUITARISM

It is perhaps of no great importance what particular discovery led to the stampede of which I have spoken. Though my assumption that it was largely related to the pituitary body may be historically incorrect, it nevertheless will be admitted that suddenly before our eyes there was found to exist a large group of individuals whose physical peculiarities, previously regarded as within normal physiologic limits, were due to a disordered function of this obscure gland. As may be recalled, the state of our confusion had been such that, after Marie's acromegaly had been shown to be

* Presidential Address before the Association for the Study of Internal Secretions, Boston, June 6, 1921.

1. A plotted chart of the number of articles relating to the pituitary gland published annually during the past two decades shows that in 1907 there were thirty-four papers of which twenty-four dealt solely with acromegaly. In 1912, the year of my monograph, the curve rose so abruptly that the Index Medicus perforce rearranged its headings and for the first time assembled under one heading the publications dealing with the internal secretions. In 1913 there were 298 titles on the subject of the pituitary alone.

2. Garrison, F. H.: Ductless Glands, Internal Secretions and Hormonic Equilibrium, Pop. Sc. Month., December, 1914, p. 351 et seq.

associated with tumor, many futile attempts had been made to reproduce the condition experimentally by extirpating the gland. Hence when Alfred Fröhlich under the title "Ein Fall von Tumor der Hypophysis cerebri ohne Akromegalie" published his brief paper describing an example of adiposogenital dystrophy with tumor, the observation was utterly mystifying, until it was disclosed some years later, through a series of experiments in the Hunterian Laboratory, that this condition and not acromegaly was the consequence of pituitary insufficiency.

By this demonstration not only was a new light shed on the entire group of pituitary disorders but also on the derangements of the ductless glands in general, for here was another of these structures which, like the thyroid, gave recognizable clinical signs of functional loss which could be contrasted with those assumed to be due to functional excess. Indeed, it soon became apparent that evidences of dyspituitarism, particularly on the side of lowered function, were as common, if not more common than were corresponding states due to functional deficiency of the thyroid which, in this country at least, are relatively uncommon. What is more, in many disorders showing a polyglandular participation there is an obvious hypophysial influence at work, whereas this is far less, if at all, apparent in those maladies which seemingly originate in the thyroid. Again, the diseases of the pituitary gland immediately interested a much larger public. It included the neurologist, the ophthalmologist, the rhinologist, the obstetrician, the urologist, the dentist, the pediatrician, the psychiatrist, and many others beside the general surgeon and the physician to whom alone the diseases of the thyroid were a matter of special concern.

THERAPEUTIC EXPLOITATION

These are but a few of the influences which have led us in such numbers to embark glandward ho! and a good many of us, I fear, have completely lost our bearings in the therapeutic haze eagerly fostered by the many pharmaceutical establishments. For this, however, a credulous profession is largely responsible. An enthusiastic writer says, "We are now in the epoch of pragmatic endocrinology and should make the most of the splendid opportunity." Children are either too short or too tall, too fat or too lean. Their adolescence is too early or too late; they have too little or too much hair. They are intellectually backward or stupid, even defective or epileptic. The sella turcia is too small or too large and its bedposts are of the wrong shape or may even coalesce. The pineal gland casts a shadow and must be causing trouble. The basal metabolism, laboriously calculated, is found to be a little low or a little high. All this needs attention and can be corrected by some whole-gland extract, usually with a pinch of thyroid thrown in.

Pituitary extract is advocated in parturition, shock, baldness, impotence, epilepsy, scleroderma, amenorrhea, dementia praecox and a multitude of other conditions, which hitherto have baffled us, and if it does not suffice by itself you are earnestly recommended, according to the directions in the enclosed folder, to try this or that combination of hormones which contain the active principle of several glands: "In hypertensive conditions use hormotone without post-pituitary," we are advised. Never before has there arisen such an opportuinty for polypharmaceutical charlatanism. The subject has fired the imagination of the stay-at-homes as did the Mississippi Company and the South Sea Bubble, and there is likely to be the same final crash and then ridicule when common sense begins to breed a proper skepticism. Here are a few samples taken at random from the hundreds of paragraphs that might be quoted from standard medical journals.

"Speaking in relative terms and in view of its relation to the posterior pituitary it is a male gland just as relatively speaking the thyroid is a female sex gland."

"It is the normal action of the anterior pituitary which is concerned with that cerebral trophic stimulation and with that maturity of mind and with that judgment which in most men act as restraining factors to the coarser instincts."

"As a corollary to the clinical use of pineal gland in accelerating the chemical movement of the brain in the backward child, it has appeared to me justifiable to try it in premature decay of the mental powers in old people. I have found that while it will not make over hardened arteries of a dilated heart, it will quicken the slowed-down mental processes of old age, improve the memory, and produce a remarkable cheerfulness and sense of well-being. Some of my elderly patients have taken it for years, and decline to be without it."

"We note that we can identify gonadal difficulties by the position, shape, or absence of the lateral incisors; we can detect pituitary compensation in the male and adrenal compensation in the female as a result of these gonadal disturbances."

"The pituitary, we have found, controls all functions based on periodicity-menstruction, the rhythm of poetry and music, punctuality, neatness, order, all of these have their origin in the pituitary. We find clinical corroboration of this in diseased conditions of the gland, when a sudden fondness and aptitude for music make their appearance simultaneously with a new growth which activates certain secretions of the pituitary."

"In diagnosis it is no longer a question of bimanual examination, of listening to the lungs, to the heart, testing the blood-pressure, examining the urine, examining the blood, etc. It is a matter of observation and also of tests to determine what the endocrines have been doing to a patient before she comes to us, and then it is for us to determine what the endocrines are doing at the time the patient consults us; and if the patient suffers from too little of a secretion necessary to her well-being, what is easier than to administer it?"

Certainly nothing is easier, but what buncombe this is for a profession like ours. I know of nothing similar unless it was the furore over phrenology. There was much of value in Gull's early doctrines, but when speculation regarding the cerebral "faculties" and their relation to bumps on the skull was allowed to run away with the subject, it came to be treated with derision and soon passed into oblivion. After the death of Gull thirty-three years elapsed before the rebirth of the topic with Broca's attempt to localize the faculty of speech. Exploitation makes enormously more difficult the task of the serious-minded colonists who realize that the clearing of the land will be a slow and wearisome process before marketable profits can be taken from the soil.

SLOW PROGRESS OF KNOWLEDGE

Past experience with the thyroid should be a sufficient lesson, and this was perhaps the simplest problem. Yet how slow has been our progress! Largely by making it subversive to surgical procedures its clinical phenomena have been laboriously disentangled from those of the adjacent parathyroids; its manifestations of inactivity in childhood and adult life have become understood and it has been found that the administration of its extracts will largely counteract the loss of secretion produced by operative removal or disease. Its varied expressions of overactivity have begun to be disentangled and we have found a fairly accurate means

of mathematically recording their degree. By slow steps the relation of the gland to iodin has been discovered, and finally its active principle in crystalline form has actually been isolated. The thyroid colony has, in other words, been longest established, and though it has been a far cry from Schiff's experimental thyroidectomies in 1856 to Kendall's synthetic production, in 1914, of thyroxin, yet how little do we really know of the background of thyroid disorders, of their relation to the emotions and the sympathetic nervous system, and their pluriglandular interplay.

With the pituitary gland we are still far behind all this, nor can we profit very greatly by past experiences with the thyroid except that we must avoid certain traps and pitfalls of observation which have been located by our predecessors. We must exercise patience and expect even slower progress, for we are dealing with a far more complicated structure and one whose problems evidently cannot be solved without consideration of their relationship to other glands. Of its great importance to the economy, particularly in its influence upon growth and reproduction, and hence, to quote Arthur Keith, upon the evolutionary processes affecting many of man's racial characteristics, there can be little doubt; but these speculative theories are not for the practicing physician. He must await the tedious accumulation of facts which the experimental laboratory and clinic alone can supply.

The process is somewhat as follows: We first come to recognize an unusual clinical syndrome. This in time is ascribed to the disorder of a particular gland, usually because it is the seat of tumor or enlargement. These tumors exert pressure on neighboring structures and for mechanical reasons have to be removed. Extirpation of the gland whether conducted in laboratory or operating room, reproduces for us in some degree the clinical picture resulting from glandular want. Consequently to secretory excess we venture to ascribe the reverse clinical picture. We in time come to differentiate various modifications of both of these types and endeavor to treat them therapeutically. For states due to oversecretion our only recourse at present is surgery or some form of radiation. The attempt is made to atone for secretory deficiency, on the other hand, by one or another method of glandular administration, awaiting the time when this can be done with greater accuracy after the discovery and synthetization of the active principle.

Still, important as this discovery will be, it will by no means be the last step, for we have had epinephrin for twenty years and yet have made less progress with the disorders of the suprarenal than we have with those of the thyroid in complete ignorance of thyroxin. We will only be approaching the end—as near as one ever is to the end in medicine—when chemical substances come to be known, possibly the active principles of other glands, whose administration will counteract states of functional overactivity. But this time is very remote, and so long as there is tumor formation, giving neighborhood disturbances apart from those attributable to the disorders of internal secretion, so long will the surgeon be needed, and in the interval he should feel it his duty, so far as possible, to blaze a trail which can be easily picked up by those better trained who follow and who in turn will lay the road for all comers.

SIGNIFICANCE OF THE TUMOR

Were it not for the tumor, indeed, clearly indicating the seat of trouble, how little would we now know of the thyroid, for it is only of late years with some knowledge of basal metabolism that we have ventured in its absence to speak, at least with any assurance, of hyperthyroidism. Certainly without the combination of tumor and modern principles of surgery we might still be groping in the wilderness over thyroid insufficiency. But certain goiters pressed on the windpipe and demanded removal. Kocher and Reverdin found the way to do so and the cause of myxedema was disclosed, and then of cretinism and finally of tetany. In the bare statement, this seems simple enough today, but even the technical difficulties of these early thyroidectomies were such that only the boldest operators, whose exciting adventures Professor Halsted [3] has so vividly described, dared to undertake them. Still, formidable as these surgical difficulties appeared to be, they were as nothing when compared with the subsequent intellectual tasks that were necessary for an interpretation of the results.

In the case of pituitary disorders we are not far beyond the stage of tumor. One may recognize outspoken acromegaly without a roentgenogram of the sella, just as one may exophthalmic goiter without seeing the neck. But in the absence of neighboring pressure signs, to say that a child who is undersized, or fat, or whose dentition or adolescence is delayed, or that an adult, who has the texture and color of skin, the adiposity, impotence, subnormal temperature, and so on, known to characterize certain individuals with hypophysial adenomas, is really a subject of pituitary want, is purely a matter of guesswork. If this admission must be made regarding these fairly characteristic pituitary syndromes, what is there to say of a pluriglandular complex except to acknowledge an abysmal ignorance?

PITUITARY OPERATIONS

Hence it is that with the therapeutics of hypophysial disorders we are still mired in the crude path-breaking stage of surgery, and progress is necessarily slow. Indeed, it is only within a few years that such a thing has even been deemed possible. Yet this need be no occasion for wonderment since only of late with the development of roentgenology and the more extended use of the ophthalmoscope and perimeter can a diagnosis of pituitary disease apart from acromegaly be made with any probability. Unlike the thyroid enlargements, an hypophysial or parahypophysial growth can be determined only by indirect methods, for next to the brain stem itself, the hypophysis lies in possibly the best protected and most inaccessible place in the body—one reason for assuming that it may be a most important member of the endocrine series.

Surgeons have assailed it from below through the nasal cavities, and from above through the skull by elevating the frontal lobe either from in front or the side. It is certain that no one method is applicable for all conditions of pituitary tumor and that for some no satisfactory procedure has been devised. Speaking for myself, I find that I am conducting proportionately fewer rather than more transphenoidal operations, though in favorable cases with a large ballooned sella I believe the latter to be the simplest and easiest method, the one most free from risk and most certain to lead to a rapid restoration of vision. However, in increasing numbers, both in children and adults, suprasellar tumors giving secondary hypophysial symptoms are

3. Halsted, W. S.: The Operative Story of Goitre, Johns Hopkins Hosp. Rep. **19**: 71-257, 1918.

being recognized, and if the sella is not enlarged an approach from above is necessitated.[4]

The first thing we must learn to do, therefore, is to recognize and classify the types of pituitary disease which are unmistakable owing to the presence of tumor. Even this has many difficulties, as is evident from the number of patients referred to the clinic as examples of pituitary disease because the roentgen ray supposedly shows a partially destroyed and distended sella. Though it is well known that the pressure of tumors elsewhere in the cranial chamber may produce secondary hypophysial manifestations, it has not been sufficiently emphasized that these conditions are apt to produce a more or less marked degree of sellar distortion with thinning or actual absorption of the posterior clinoid processes.[5] A still more common pitfall lies in the misinterpretation of plates showing what is supposed to be an abnormally small fossa, and if this finding is regarded as an indication of pituitary insufficiency, a prolonged course of futile glandular therapy is usually instituted. But even in the presence of unmistakable tumor we are as yet little more advanced with our problem than were those, who, in the eighties and early nineties began to operate upon goiter merely for the relief of pressure symptoms. It will be long, I fear, before hyperpituitarism will come to be attacked by operative measures as hyperthyroidism has been, and ere then it is not impossible that some form of therapeutic radiation may prove so effective as to take the matter entirely out of the surgeon's hands.

DIABETES INSIPIDUS

That we are not far on our way is evidenced by the present discussion concerning diabetes insipidus. We were long misled by the early experiments which appeared to indicate that posterior lobe extracts were diuretic in their action—an error due to the brevity of the usual physiologic experiment. Until Motzfeldt's studies which showed that these extracts were really antidiuretic in action it was difficult to understand why diabetes insipidus was so often an accompaniment of pituitary insufficiency rather than of its counter state. This observation gave us for the first time a rational basis for the treatment of the disorder, but unhappily posterior lobe extracts appear to be ineffective when given by mouth, as so many glandular extracts are, and there are limits to daily hypodermic injections of a substance such as pituitary extract. Again, no sooner do we appear to have a clear understanding of the cause of diabetes insipidus than we are confronted by the old contention that it is not hypophysial in origin after all, but is due to a lesion of the tuber cinereum, and the view has even been advanced that the somnolence and adiposity assumed to be hypophysial are also of like origin.

In short, does a suprasellar tumor so affect the hypophysis as to cause adiposity, tardiness of adolescence, diabetes insipidus and the like, or are these symptoms attributable to an adjacent cerebral lesion? We may of course have suprasellar tumors which produce none of these effects; but when they occur, what is the explanation? Roussy and Camus, Houssay and others have revived this subject in favor of the nuclear origin, and Percival Bailey and F. Bremer by very exact surgical methods have succeeded repeatedly during the past year in making under direct vision a minute lesion in the tuber cinereum of the dog which results in the permanent establishment of a polyuria of high degree. This is a brilliant achievement; but, nevertheless, since they have found that injections of pituitary extract will temporarily abolish the experimental polyuria of their animals just as it does the diabetes insipidus of man, we are left in some doubt as to whether the function of the hypophysis may not after all be affected even by this procedure.

Of these matters all that can be safely said at present is that many pituitary disorders, like those of the thyroid, probably have some neurogenic background of which we know little. It was with this in mind that some years ago the attempt was made with Weed and Jacobson[6] to trace the pathway of fibers influencing the gland from the fourth ventricle by way of the cervical sympathetics.[7] When there was available glycogen stimulation of this pathway provoked glycosuria even though impulses could not reach other ductless glands, and we were led to believe that through a chemical messenger the pituitary had a definite influence upon the utilization of glycogen.

METABOLISM STUDIES

These particular experiments were the outcome of studies made largely by Conrad Jacobson and incorporated in my monograph of twelve years ago, regarding the sugar tolerance of our experimental animals and

4. At the present time there have been in the writer's series 255 examples of what was regarded as primary pituitary disease. In over 200 of these cases there was unmistakable evidence of tumor, the nature of which has been verified by operation in 190 cases.

Of these 190 patients, 155 were operated on by the transsphenoidal route, ten of them on more than one occasion, with a case mortality of 9.7 per cent. Forty of them have been operated upon by the osteoplastic transfrontal route, usually for suprasellar tumors, with a case mortality of 7.5 per cent. In four patients both methods have been used, two of them cases in which a transsphenoidal operation was ineffective in restoring vision: two of them cases in which a transfrontal operation revealed an unperforated glandular capsule and hence an operation from below was preferred.

Only a few of the 190 surgical cases were acromegalies. The others showed many and varied forms of dyspituitarism. A great number of these patients have been induced subsequently to follow out prolonged courses of glandular treatment. I cannot say that I have ever seen any definitely beneficial results of so doing except when there has been some concomitant thyroid want indicating the coincidental use of thyroid extract.

5. Under these circumstances the ophthalmoscope will usually make the diagnosis, but this is not invariable, for a choked disk rather than primary atrophy may occasionally accompany an intrasellar tumor. We have recently had three striking examples of this. But with the combination of ophthalmoscope, perimeter and roentgen ray there should rarely be room for differential doubt.

6. Weed, Cushing and Jacobson: Further Studies on the Rôle of the Hypophysis in the Metabolism of Carbohydrates: The Autonomic Control of the Pituitary Gland, Bull. Johns Hopkins Hosp. 24: 40-52, 1913.

7. Efforts to reproduce experimentally the clinical states assumed to be due to glandular overactivity, like hyperthyroidism or acromegaly, have so far been unavailing. When some method of accomplishing this is finally discovered it will act as a star shell in the night to illumine the entanglements among which we are groping. It was a brilliant conception of Cannon's that one might stimulate a gland by shunting into its governing nerve supply the rhythmic impulses which pass along the phrenic to the diaphragm. He endeavored to overstimulate the thyroid in this way by anastomosing the phrenic and cervical sympathetic of the cat and in some cases a state resulted which bore a certain resemblance to hyperthyroidism. These experiments, however, were repeated the following year by Gilbert Horrax with the difference that in the animals of his series a preliminary excision was made of the thyroid on the side of the anastomosis. In a few animals the same phenomena was observed that Cannon had described. Some other interpretation than his, therefore, must be forthcoming. One might argue that the impulses must have primarily affected the hypophysis and secondarily, if at all, the thyroid. This most ingenious method deserves further employment.

Of late Cannon has been engaged in perfecting a method of registering the functional activity of a gland by electrical measurement, a difference of electrical potential being regarded as an evidence of secretory activity. All such experiments directed toward the underlying neurogenic influences of glandular action, if capable of development, promise the greatest reward.

Without any basis of experimental control clinicians have from time to time evolved speculative hypotheses regarding the relation of the nervous system to the endocrine series. Pineles was among the first to discuss the matter; but, as he once told me, it is difficult to tell whether the sympathetic nervous system is the performer that plays on the ductless glands, particularly the suprarenal, thyroid and pancreas, or whether, on the contrary, the secretion of the ductless glands twangs the strings of the nervous system and sometimes makes agreeable chords, sometimes discords.

The views of the Vienna school as expressed by Eppinger, Falta and Rudinger are well known, but whether we will get very far with an analysis of sympathicotonic versus vagotonic states without a better understanding of normal function is somewhat doubtful and the subject has become almost too complicated for ordinary understanding.

of pituitary patients. It was observed that in states of insufficiency there was often an enormous increase in the animal's or patient's sugar-holding capacity, and we hoped that the estimation of sugar tolerance might prove to be as reliable a measure of the individual's degree of hypopituitarism as it is of hypothyroidism—in short, a measure of his food combustion. The method in the end proved far too cumbersome and inaccurate for clinical purposes.

We at the same time were led, rightly or wrongly, to see resemblances in our experimental animals to certain hibernating states, and knowing that the basal metabolism in hibernation had been shown to be exceedingly low, one of my co-workers, John Homans, subsequently made some metabolism studies in Dr. Benedict's laboratory on hypophysectomized animals, with results sufficiently encouraging to make us pursue the subject into the clinic. With this in view, W. M. Boothby installed in the Brigham Hospital the first laboratory, to my knowledge, for the methodical study of the metabolism of ductless gland disorders. He soon observed that deviations in the normal respiratory exchange were more extreme in thyroid than in pituitary disorders, but nevertheless it has continued to be a hospital routine since 1912 to determine whenever possible the basal metabolism of our hypophysial as well as of our thyroid cases. Before Dr. Boothby's departure, ninety patients with unquestionable pituitary disease were studied, and since then estimations have been made on almost as many others by Miss Tompkins and Dr. Sturgis. The results have never been published, but in brief it may be said that in the early stages of acromegaly there is a definite increase in metabolism though it rarely exceeds + 20, whereas in the reverse states, those showing a slow pulse, subnormal temperature, lethargy, adiposity, and so on, the rate, as would be anticipated, averages at least 20 points below normal.

The observations are of greater physiologic interest than of practical application, and there is no reason why every one should feel that a metabolism estimation is needed for every patient showing a pituitary dystrophy. One can make a diagnosis of valvular disease of the heart without the employment of the electrocardiogram, and, after all, these elaborate instruments of precision are more suitable for the research laboratory than for the clinic. One finds advertised that a metabolimeter hyas been perfected which requires no calculation, the accuracy of which is guaranteed and which does its work in five minutes. The difficulty is to know what we are to do with the information when we get it, and I have heard Dr. Benedict say that any fool can make a basal analysis but few can interpret it.

In this connection, too, it should be recalled that even in normal individuals the estimation of the respiratory exchange is a matter of considerable difficulty and uncertainty. It is very easy to say that when the metabolism is low give thyroid extract, and when high give a counter extract, possibly some lutein. This is a good deal like the hypertension bugaboo, the outcome of the blood pressure apparatus which encourages the attempt to lower tension if it is too high or to raise it if it is too low. We ought to be beyond this variety of pure symptomatic treatment, for hypertension is not a disease any more than is tachycardia or bradycardia, discussions of which flooded the literature after the introduction of the pulse watch. When our clinical tests get too far in advance of our powers of interpretation, theory is apt to elope with practice.

INSTRUMENTS OF PRECISION

The profession perennially aspires to make diagnosis and therapy less of an art and more of an exact science. The introduction of instruments of precision unquestionably has enabled us to substitute some degree of numerical exactitude in place of the more or less rough methods of estimating and recording certain clinical phenomena, but our tendency is to become so dependent upon these accessories to bedside clinical observation that we are prone to lose sight of the patient as a whole while investigating in detail a single symptom of his disease. If overdone it has a particularly bad effect on our students, who, relying too little on their special sense organs and too much on the laboratory, come to feel that there is little use in ever trying to arrive at a diagnosis without these aids which are but subsidiary ones.

The introduction of instruments of precision is by no means a new idea. Galileo and Kepler had it, for in the sixteenth century they played with the thermometer and pulse counting, while Sanctorius undertook primitive metabolism experiments. Unquestionably many of our seemingly elaborate instruments of the present day may in time become simplified and put to routine use, for it is to be remembered that three centuries elapsed before the profession, after coquetting with the clinical thermometer, passionately adopted it after Wunderlich's classical studies in 1868 on animal heat in disease. I am far from wishing to belittle, therefore, the utilization of instruments permitting exactitude of measurement, but merely wish to distinguish between instruments which in their present form are useful for research, like the calorimeter and electrocardiogram, and those really necessary for a diagnosis.

UNSOLVED PROBLEMS

But I am permitting myself to digress too far from the main topic of this address—the pituitary body and its derangements, in furthering our knowledge of which every possible agency must be brought to bear and all must take a part—the experimental zoologist, the comparative anatomist, the biochemist, the histologist, and many others besides the clinician. From whatever side the problem is approached the rewards are likely to be great. Studies such as those of Phillip E. Smith on the pigmentary and growth alterations in tadpoles deprived of the epithelial rudiment of the hypophysis are an example. The physiologist will perfect new methods to replace the simple observation on the kymographion of the blood pressure raising quality or otherwise of ductless gland extracts. The pathologist has by no means as yet done his share. The pituitary gland in disease has been insufficiently studied by histologic methods, and we have as yet nothing in any way comparable to Halsted's compensatory thyroid hypertrophy, which for so many years has been the basis of our interpretation of hyperthyroidism. There has been as yet no serious attempt toward a histologic classification of the pituitary adenomas, and this is hardly possible until we have learned more regarding the stages of activity of the normal anterior lobe cells; for there is still doubt as to whether the basophilic and acidophilic cells differ in function or represent different stages of activity of the same cell. Neither can we as yet by staining methods clearly differentiate the secretory granules and mitochondria.

GLANDULAR THERAPY

The physician or surgeon, meanwhile, even if incapable of participating in these underlying studies, must

do the best he can with the mere recognition and classification of clinical types, and should he venture to try glandular therapy he must be slow to draw conclusions from the apparent effect of glandular extracts given by mouth, particularly when more than one is given at a time. It has been claimed that the body picks out the substance it needs and will discard the others, but this has the familiar sound of the gunshot doses of earlier days. The experience with pituitary extract in diabetes insipidus shows that the substance only acts when given hypodermically, and we have very little evidence that other glandular extracts have any action when given by mouth.

It has been the experience of all time that the less one knows of a disease the more enthusiastically are certain therapeutic agents advocated for its cure, and I know of nothing comparable to the present furore regarding the administration of glandular extracts unless it be the plant pharmacology of the middle ages, based on the "doctrine of signatures." A patient is bilious—therefore he has some disease of the liver. The leaves of a certain plant resemble in their color and appearance the surface of the liver—therefore a concoction of these leaves is good for biliousness, and the plant comes to be called hepatica. But then, lest it may not really do this, we will add several other things to the concoction as well. This is about the basis on which glandular extracts are administered today. And it will be noted that most of them contain a certain amount of thyroid extract, which possibly is the only one of these substances having any definite action when given by mouth.

And so, if I may return again to my underlying allegory, if this society wishes to play a useful rôle in furthering advances in endocrinology, it must, so far as possible, through the pages of its journal, keep such an exact almanac that those pursuing the subject in the proper spirit may be able to avoid unfavorable winds, currents and counter currents. It must discountenance the exploitation of the few discoveries which have already been made by those who recklessly under full sail plow through a fog bank of therapeutics, their horns tooting.

Surely nothing will discredit the subject in which we have a common interest so effectively as pseudoscientific reports which find their way from the medical press into advertising leaflets, where cleverly intermixed with abstracts from researches of actual value the administration of pluriglandular compounds is promiscuously advocated for a multitude of symptoms, real and fictitious. The Lewis Carroll of today would have Alice nibble from a pituitary mushroom in her left hand and a lutein one in her right and presto! she is any height desired.

Endocrinology as a special subject, if it wishes to survive and come to be a factor in medical practice, must look out for the character of its clinical advance agents lest it come to be utterly discredited. We have nothing as yet, in the treatment of pituitary insufficiency, comparable to what Victor Horsley and his pupil Murray accomplished for myxedema, and we are still further behind in the case of the other glands. Indeed, no Magellan or Balboa for ductless gland therapeutics in general has yet appeared, though let us hope he may be on the way. Meanwhile there is many an imitator of Cortez or Pizarro to trade on the superstitious awe of the natives, who will soon come to be fully disillusioned.

NERVE INJURIES DUE TO ERRORS IN TECHNIC IN MAKING INTRAVENOUS ARSPHENAMIN INJECTIONS

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Accidents following the intravenous injection of arsphenamin are apparently uncommon, notwithstanding the frequency with which such injections are made. The nerve injuries which are discussed in this paper are reported to emphasize the necessity of extreme care in making these injections; for, if the solution is injected into a nerve or the sheath surrounding it, the nerve will be severely damaged. The subsequent sloughing of the soft tissues adjacent to it may render nerve repair difficult or unsatisfactory.

REPORT OF CASES

CASE 1.—*History.*—A man who entered the Presbyterian Hospital, Feb. 3, 1921, said that two years before he had been given an intravenous injection of arsphenamin, the left median basilic vein being used. Immediately after the injection, he experienced severe pain in the region of distribution of the median nerve. The pain gradually subsided after several hours. Shortly after the injection, the arm became greatly swollen. The skin on the inner side of the arm, just above the elbow, sloughed, leaving an ulcer measuring 3 inches in length by 1 inch in width, which healed very slowly.

Examination.—The scar which remained after the healing of this ulcer was densely adherent to the underlying tissues. A typical median nerve palsy had developed. Anesthesia, corresponding in area to that usually associated with median nerve lesions, was found. The patient could not flex the index finger; and the flexor longus pollicis, the outer head of the flexor brevis pollicis and the opponens pollicis were paralyzed. There were no marked trophic disturbances. The patient had protected the anesthetic areas carefully. This accounted for the absence of the so-called trophic ulcers which are usually the direct result of trauma. When the scar just described was palpated, no neuroma could be found on the median nerve. While some tingling was complained of when the tissues were palpated, it was not the tingling or referred pain such as is experienced when a neuroma is touched.

Clinically the patient had a median nerve paralysis which had developed within a few hours after an attempted intravenous injection of arsphenamin. The needle either passed through the median basilic vein or was inserted into tissues adjacent to the vein when the injection was made. The immediate onset of severe pain indicated that the solution came in contact with the median nerve immediately after the injection.

Treatment.—An operation was performed on February 4, with the intention of repairing the median nerve, the anatomic continuity of which had apparently been interrupted. The incision was made anterior to the dense, firmly adherent scar in the skin mentioned before. This scar had all features of the scars following war wounds, which so frequently liquefied and melted away when their connections with subjacent tissues were interfered with.

The median nerve could be exposed without much interference with this scar. As the distal end of the proximal segment of the median nerve was dissected out, it presented a peculiar appearance. The usual neuroma was not found, but the nerve was considerably enlarged for the distance of an inch and a half. When this part of the nerve was resected, heavy scar tissue was found. It seems that the arsphenamin had destroyed the neuraxes for a considerable distance, but that the epineurium and connective tissue elements of the nerve had been preserved, causing this peculiar long enlargement composed of scar tissue. The arsphenamin when injected had evidently traveled along the fatty sheath of the nerve, for the epineurium was considerably thickened, at least

3½ inches above the point of injection. At this point, fused and gelatinous-appearing or edematous funiculi were found, resembling those found after resection of the neuroma of a divided nerve. The epineurium was considerably thickened, even at this level. The defect remaining after resection of the scar tissue measured about 3½ inches. The ends were separated by about an inch when exposed, and were embedded in scar tissue. An end-to-end suture could be made when the nerve ends were mobilized and the forearm was rather acutely flexed. The skin was closed in the ordinary way, the dissection having been made without much interference with the dense scar in the skin. Flexion of the forearm was maintained by a cast.

The sutures were removed at the end of a week and another cast applied. The wound was healed. The patient left the hospital at the end of eight days.

Subsequent Course.—A letter which was received subsequently stated that, two weeks after the patient left the hospital, it became necessary to remove the cast on account of the odor. When the cast was removed, it was found that the lower part of the adherent scar had sloughed. In war wounds, the densely adherent scars occasionally seemed to liquefy and slough, leaving an ulcer which repaired slowly. This scar, following the destructive action of arsphenamin apparently, acted much the same way.

A letter received the first of May stated that the patient could not yet completely extend the forearm. Complete extension was apparently prevented by a rigid, contracted muscle. The patient stated that at this time there seemed to be some improvement in sensation, but there was no evidence of return of motion.

Case 2 was studied at Fort Sheridan. The clinical data have been kindly furnished me by Dr. L. J. Pollock.

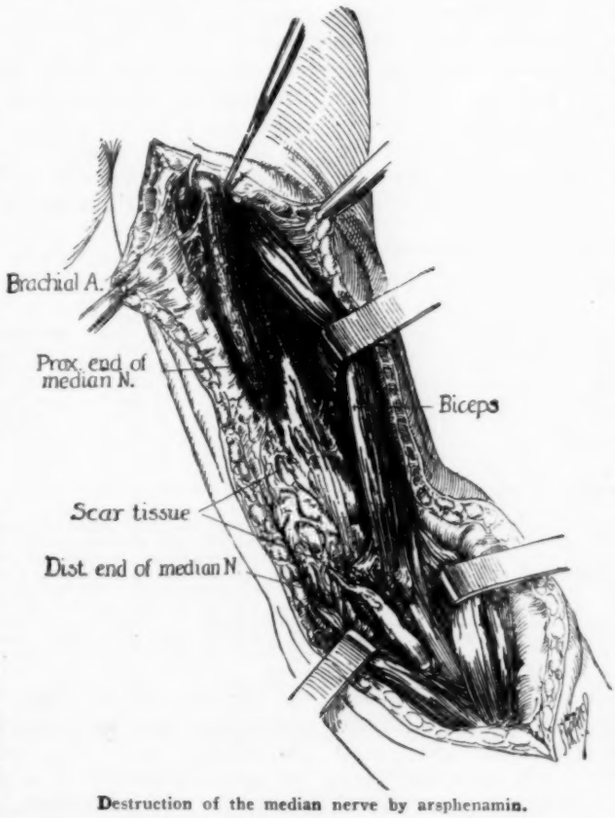
CASE 2.—*History.*—In August, 1918, an ulcer developed on the patient's penis. On Sept. 8, 1918, an intravenous injection of arsphenamin was attempted, the median basilic vein being used. It was evident that the needle had not entered the vein for the patient complained of severe pain in the fingers of the right hand, and marked contractions of the muscles were noted as soon as the injection was made. A considerable amount of the solution apparently escaped into the subcutaneous tissues. The forearm and hand became discolored and swollen. The swelling developed rapidly, and the shirt sleeve had to be ripped in order to remove it. The swelling persisted for about five weeks. Sloughing of the skin did not occur. The patient was admitted to U. S. General Hospital No. 28, Feb. 23, 1919. He was given a three-day leave, returning Feb. 29, 1919.

Examination.—An examination made at this time revealed the following motor disturbances: flexion of the right hand, weak; adductor pollicis, very weak; abduction of the little finger, impossible; contractures of the flexor group of muscles; ankylosis of the first and second phalanges of the index finger at about 80 degrees (firm ankylosis). The interossei muscles were atrophied, as was the adductor pollicis. Moderate atrophy of the muscles of the hypothenar group was noted. The skin of the hand was very thin. Marked transverse ridges were noted on the nails. There was a hypertrichosis. The patient had occasionally noted pain in the hand, and the entire palm of the hand was hyperaesthetic. No anesthesia was noted at the time the examination was made. Burning of the hand and wrist was noted in December, 1918, but the feeling now was nearly normal.

Diagnosis.—A recovering ulnar and median lesion was the diagnosis.

Treatment.—April 18, 1919, a splint with spring traction bands and keys was applied. April 29, 1919, it was noted in the history that the fingers were much relaxed. A Tinel sign was elicited over both the median and the ulnar nerves, and the areas supplied by them were sensitive to deep pressure.

The subjoined note was made, June 20, 1919: "Nerve injury due to arsphenamin solution injected Sept. 8, 1918. There is marked clawing of the right hand. Flexors of the wrist normal in power. Atrophy of the interossei, adductor pollicis, and muscles of the hypothenar group. Opponens pollicis has good power. The nails are curved and have transverse ridges. The muscles of the palm are very sensitive to pressure. It is not possible to measure the strength of the interossei muscles because of the fibrosis and tendon contractures. Some motion is, however, noted in all. The interossei muscles of the index finger have extensive but weak movement. There has been a marked improvement in the sensory disturbances since May 13. The patient does not need an operation and is considered ready for discharge."



Destruction of the median nerve by arsphenamin.

These two examples of nerve injury caused by errors of technic in making arsphenamin injections are reported to emphasize the need of extreme care. Pain radiating into the fingers when the first few drops of the solution are injected should be a warning that the needle is not in the vein and that the solution is being injected directly into a nerve or into the tissue surrounding it.

Arsphenamin injected into or about a nerve may have a marked destructive action, causing extensive degeneration of neuraxes and the development of large amounts of scar tissue. The densely adherent scar which follows sloughing of the skin, if such occurs, may seriously interfere with or render unsatisfactory a nerve suture.

122 South Michigan Avenue.

Army Experiments with Carrel-Dakin Technic.—Experiments just completed by the surgical service at the Walter Reed General Hospital indicate that the use of soap solution is not essential in Carrel-Dakin technic in the treatment of septic empyema cases. The following technic is now being carried out: The tubes and gauze packings are removed and the wound flushed out with the Dakin's solution to remove the detritus and the surface then sponged off with cotton pledgets soaked in the Dakin solution. The petrolatum impregnated gauze is then removed, the skin cleansed with benzin and alcohol and new gauze reapplied. Tubes and gauze packings are then replaced. The surgical service reports that irritation of the skin is not observed and that having the Dakin solution of the proper titer is of more importance than the use of soap. The solution is made fresh daily.

CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN IN RHEUMATIC FEVER

COMPARATIVE THERAPEUTIC EFFICIENCY, TOXICITY AND RENAL FUNCTIONAL EFFECTS *

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AND
R. W. SCOTT, M.D.
WITH THE COLLABORATION OF
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AND
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Cinchophen and neocinchophen (introduced by Chemische Fabrik auf Aktien as Atophan and Novatophan) are being advertised as superior substitutes for salicylates in the treatment of rheumatic fever. These agents, it is claimed, possess to a marked degree all the beneficial qualities of salicylates, and are free from their detrimental qualities, such as symptoms of salicylism "toxicity" and renal injury. As these agents are related chemically to salicylate, it would be rather surprising to find such marked differences between them. On the other hand, if the claims are true, cinchophen and neocinchophen would represent a distinct advance in the treatment of rheumatism and similar affections.

The claims for novaspirin appear to be somewhat less pretentious; nevertheless, they give the impression of superiority over other salicyl compounds. The manufacturers claim that this agent is less powerful than acetylsalicylic acid, but more prolonged in its action and also free from the deleterious qualities of salicyl. Evidences for this claim are lacking.

The literature contains practically no scientific data on the actions and uses of novaspirin and neocinchophen in rheumatism, and very few on cinchophen. The few reports on cinchophen are uncritical and indecisive. Therefore, we resolved to make some observations on the therapeutic efficiency of these agents in rheumatic fever, observing at the same time, when feasible, the effects on renal function, and the development of symptoms of "toxicity." Although only a brief period of time could be allotted to this study, and the number of patients and other individuals observed is relatively small, certain of the objectives aimed at were definitely attained. Briefly, the results obtained indicate that cinchophen and neocinchophen are promising therapeutic agents for the treatment of rheumatic fever. Novaspirin is worthless. Both cinchophen and neocinchophen produce symptoms of salicylism ("toxicity"), and cinchophen is injurious to the kidney, while neocinchophen was found to be variable in this respect.

METHODS EMPLOYED

The method of determining therapeutic efficiency was practically the same as that used in a previous study [1] on salicylate. Briefly, this consists in the initial administration of the new agent to patients with rheumatic fever, until definite effects, or symptoms of drug action, occur. Then the medication is stopped, and, if no relief is obtained, a full therapeutic (toxic) dose of sodium salicylate as the standard is administered in the usual way. The criteria of complete relief consist of a sustained fall and return of temperature to normal, prompt disappearance of swelling, redness and pain in joints, and a sense of well-being. Although some relief may be obtained with small doses of cinchophen and neocinchophen, this does not necessarily constitute complete relief in the sense of a full therapeutic response to salicylate, as defined in previous publications. Small doses of salicylate also will give partial and temporary relief in acute rheumatic fever, but, in our experience, the treatment of this condition demands intensive medication with massive doses in order to obtain complete and lasting relief. Therefore, the use of large doses of the agents presently to be described is correct in principle. In this connection, the effects on other organs, especially the kidney, must not be overlooked.

Injury to the kidneys was studied by observing the appearance of albumin, casts and white blood corpuscles in the urine before and after administration of the drug. Albumin was usually sought qualitatively by the heat and acetic acid test, and sometimes by the acetic acid ferrocyanid test. The urines of several patients showed the presence of albumin before medication. In such cases the changes after administration were interpreted as best possible. Under the circumstances, quantitative estimations, other than the phenolsulphonephthalein excretion test, were not feasible. Two-hour excretion periods of phenolsulphonephthalein in the majority of patients were studied in the usual way before and after administration of the drugs, in order to gain an idea of the functional efficiency of the kidney. In a few of the urinary specimens, the estimation of phenolsulphonephthalein was

TABLE 1.—GRAND SUMMARY OF EFFECTS OF CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN

Drug Used	Total Number of Administrations	Number of Different Individuals	Number of Patients with Rheumatic Fever	Number of Other Disease Conditions	Number of Patients Showing Complete Therapeutic Relief in Rheumatic Fever	Number of Individuals Exhibiting Symptoms of "Toxicity"*	Albuminuria or Casts or Both Present in	Individuals Showing Diminished Phenolsulphonephthalein Excretion	Pulse Rate Slowed in
Cinchophen†	17	17	7	10‡	7 (100%)§	11 (65%)¶	5 (71%)#	5 (100%)	9 (90%)**
Neocinchophen	10	10	3	7††	3 (100%)	2 (20%)	5 (50%)	9 (44%)	4 (100%)‡‡
Novaspirin	6	6	3	3§§	none¶¶	1 (?)	none	.....	none
Total	33	33##	13	20	10	14	10	14	13

* Symptoms of toxicity: nausea, vomiting, buzzing in ears, fullness of head, pain in epigastrium; sometimes delirium.
† Only one comparison made with salicylate, namely, with cinchophen on Pt. C.
‡ Chiefly chronic or subacute arthritis (two) and convalescents (seven).
§ Seven convalescents not included.
¶ Five convalescents not included.
# Only seven patients properly examined; nine patients were examined too soon after stoppage of drugs.
** Ten patients were observed.
†† Subacute arthritis (three); convalescents (five).
‡‡ Four patients were observed.
§§ Three practically normal individuals received: 10 gm. (D. S.), 16 gm. (H. R.) and 13 gm. (L. B.), respectively, without any symptoms whatsoever in two (D. S. and H. R.). L. B. vomited 3 gm. during the administration, and retained 13 gm. None of these individuals showed the presence of albuminuria.
¶¶ Complete relief in each case obtained with cinchophen later.
Less four who were used twice for different agents = 29.

* From the Pharmacological Laboratory, Western Reserve University School of Medicine, and Medical Clinic of City Hospital.

1. Hanzlik, Scott and Gauchat: J. Lab. & Clin. Med. 4: 112 (Dec.) 1918.

somewhat impaired by the appearance of a smoky-brown color on the addition of alkali. This is characteristic of urines after the administration of certain coal tar derivatives. With the majority of the urines, no such difficulty was encountered. Unfortunately, no other quantitative tests for determining the renal functional efficiency could be made. After administration of the drug was stopped, some time was allowed to elapse so as to allow full development for action on the kidneys. This varied from two to twenty-four hours before the tests were applied.

"Toxicity" was judged by the appearance of symptoms of salicylism, consisting of nausea, vomiting, dizziness, ringing in the ears, and other subjective complaints, such as epigastric pain, headache and colicky pains, which could be ascribed to the medication. The temperature and pulse and respiratory rates were observed by the usual hospital routine methods.

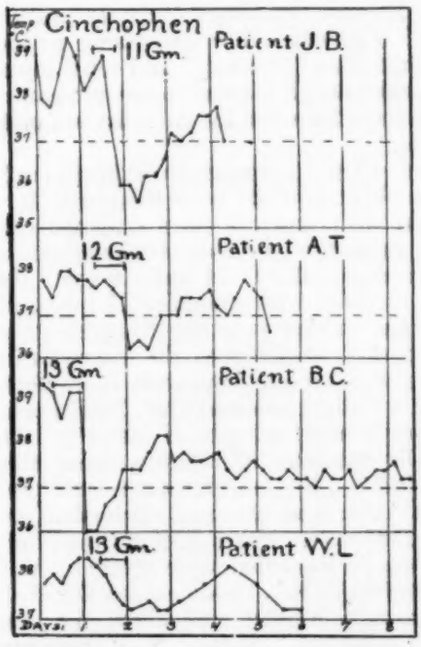

Chart 1.—Effect of cinchophen on temperature in rheumatic fever.

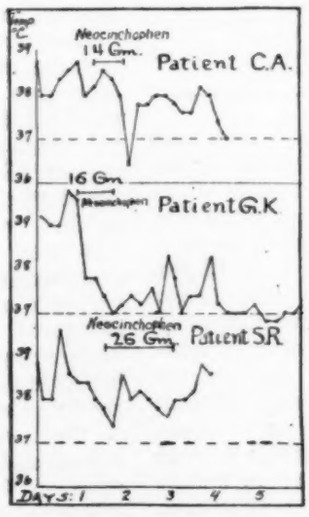

Chart 2.—Effect of neocinchophen on temperautre in rheumatic fever.

Hence, in equal dosage it would be expected to be somewhat weaker than sodium salicylate. Being practically insoluble in water, its absorption and, therefore, its therapeutic efficiency would be correspondingly diminished. Novaspirin is decomposed by alkalis into its components, with the liberation of salicylic acid and formaldehyd. To what extent this takes place in the intestine is not known definitely, but our excretory data indicate that it is rather limited. In view of the negative results obtained in the treatment of rheumatic fever, and its low excretion in the urine, further experiments to elucidate the influence of alkalinity on decomposition and solubility of novaspirin were deemed unnecessary. For further information concerning the physical and chemical properties of these agents, the descriptive articles in New and Nonofficial Remedies[2] may be consulted.

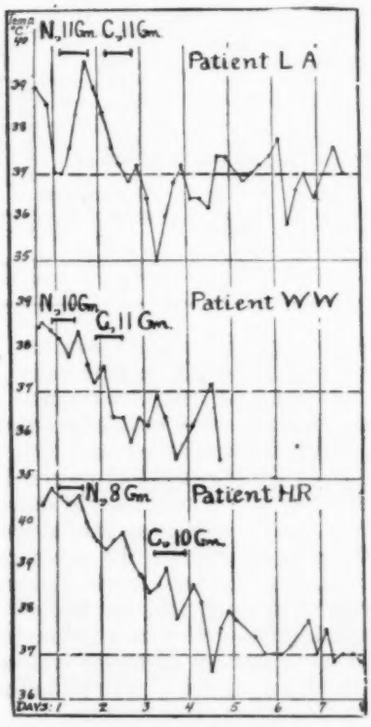

Chart 3.—Comparative effects of novaspirin and cincophen on temperature in rheumatic fever: *N*, novaspirin; *C*, cinchophen.

No other medication was administered, the object being to observe the effects of the agents themselves. Cinchophen and neocinchophen were administered in tablet form, 1 gm. of the drug being used every hour until definite symptoms of drug action were manifested. Novaspirin was administered in powder form, with a dosage of 1 gm. an hour until a total dosage whose salicyl content was equivalent to the ordinary toxic dose of salicylate was administered. A few persons received larger doses.

DESCRIPTION OF THE AGENTS USED

Chemically, cinchophen is phenylcinchoninic acid, and neocinchophen is the ethyl ester of its methyl derivative. Cinchophen is more soluble than neocinchophen, and, therefore, should be more active, readily absorbable and also more irritating and toxic.

Novaspirin is a compound of anhydromethylenecitric acid and salicylic acid. It contains 62.2 per cent. of salicylic acid, 1 gm. being the equivalent of 0.62 gm. of salicylic acid or 0.726 gm. of sodium salicylate.

The results that were obtained may now be described. A grand statistical summary of all the results is presented in Table 1. Table 2 shows the relation of dosage of cinchophen and neocinchophen to the degree of therapeutic relief in rheumatic fever. Table 3 contains the results on excretion of salicyl after the administration of novaspirin. Table 4 contains the diagnoses, dosage of all drugs used and the summary of results on renal functional changes. Table 5 contains data on circulatory effects. The accompanying charts present the changes in temperature after the administration of the different drugs to patients with rheumatic fever.

THERAPEUTIC EFFICIENCY IN RHEUMATIC FEVER

Cinchophen.—All of the seven patients with rheumatic fever, and treated with doses of the drug ranging from 10 to 13 gm., were completely relieved of subjective and objective symptoms of the disease (Table 1). Charts 1 and 3 show that the febrile temperatures of all patients were promptly lowered to subnormal levels

2. New and Nonofficial Remedies, 1921, pp. 85, 86 and 267.

in the majority, and then returned to practically permanent normal levels. All patients showed evidences of marked diaphoresis before full relief from all symptoms was obtained.

The small number of patients observed does not warrant definite conclusions as to the minimal effective dose of cinchophen for complete relief in rheumatic fever. However, some idea of the relation of dosage to the degree of therapeutic relief may be gained from the results that are presented in Table 2. This contains data obtained from five of the rheumatic patients treated. Partial relief, as indicated by beginning sense

TABLE 2.—RELATION OF DOSAGE OF CINCHOPHEN AND NEOCINCHOPHEN TO DEGREE OF THERAPEUTIC RELIEF IN RHEUMATIC FEVER

Patient	Partial Relief After	Further Relief After	Complete Relief After	Comment
		Cinchophen		
L. W.	6 gm.	10 gm.	13 gm.	
A. T.	4 gm.	.....	12 gm.	
J. B.	.....	7 gm.	11 gm.	
J. K.	5 gm.	.....	13 gm.	Chronic arthritis
L. A.	3 gm.	6 gm.	11 gm.	
W. W.	5 gm.	10 gm.	11 gm.	
H. R.	5 gm.	.....	10 gm.	
		Neocinchophen		
J. R.	8 gm.	10 gm.	13 gm.	Required cinchophen later for subacute arthritis
G. K.	3 gm.	.....	16 gm	
S. R.	7 gm.	.....	11 gm.	15 gm. additional administered
C. A.	4 gm.	10 gm.	14 gm.	

of well-being, falling temperature, lessened pain, and some improvement in joint mobility, appeared after the administration of from 3 to 6 gms. Further relief from these symptoms was not demonstrable until from 6 to 10 gm. was administered, and complete relief occurred only when the patients had received from 10 to 13 gm. At this time, the patients could move their joints freely without pain; tenderness was absent; fever had practically disappeared or the temperature was subnormal; diaphoresis was marked; some of the patients attempted to walk, and the majority volunteered complete subjective relief of all symptoms of the disease. However, all of the patients exhibited variable degrees of salicylism "toxicity" shortly before or at the end of medication. This will be discussed in the next section.

The favorable results obtained by us agree with the more extensive series reported by Heller,[3] Bendix [4] and Klemperer [5] on the use of cinchophen in the treatment of rheumatic fever, and the clinical improvement in the single case reported by Smith and Hawk.[6] On the other hand, McLester [7] failed to obtain relief from pain in the two cases of rheumatic fever treated with cinchophen, and Heller reports from twenty-five to fifty per cent. of his rheumatic patients as having obtained only partial or temporary relief. However, this lack of success appears to be largely a matter of dosage, although it would not be surprising to find patients with rheumatic fever who failed to respond to cinchophen, just as certain failures are encountered in salicylate therapy.

The facts do not warrant the allegation that cinchopen offers a superiority over salicylate in the smaller dosage that is advocated, or that cinchophen offers something specific or essentially missing in salicylate for rheumatism. On the contrary, intensive and massive doses of cinchophen are necessary for complete relief, just as with salicylate. Although the mechanism of action of cinchophen in rheumatic fever has not been ascertained, as stated by Klemperer, it is reasonable to suppose that this is quite similar, if not identical with, that of salicylate. That is, the favorable action depends on symptomatic relief, namely, analgesia and antipyresis.

It appears justifiable to conclude that the therapeutic relief in rheumatic fever obtained with cinchophen is about equal to that of sodium salicylate, both as to dosage and to relief of symptoms. There was no opportunity to compare cinchophen with salicylate on the patients themselves, as originally contemplated, since the treatment with cinchophen gave complete relief. What advantage over salicylates, if any, is possessed by cinchophen would depend on the relative freedom from objectionable side actions. This will be discussed later. *A priori*, however, it may be said that this would be of relatively minor importance as indicated by the symptoms of "toxicity" and renal injury, which were present, though somewhat less pronounced than those after the administration of salicylate under similar conditions.

Neocinchophen.—The summaries in Tables 1 and 2 indicate that the three patients with rheumatic fever that were treated with neocinchophen obtained complete relief from subjective and objective symptoms of the disease after doses of 11, 14 and 16 gm. One patient (S. R.) received with impunity 15 gm. additional to the 11 gm., which gave him complete relief. In fact, the functional efficiency of the kidneys after this large dosage was slightly improved, if anything, and there was only a slight albuminuria. Partial relief was obtained after from 3 to 7 gm. of the drug. The effects of, and the character of recovery from rheumatic symptoms induced by, neocinchophen were practically indistinguishable from those of cinchophen, and need not be repeated here. Chart 2 shows the effects on the fever in the patients that were treated. With one exception (Patient S. R.), the defervescence of the fever in the patients observed took about the same course as after cinchophen. Patient S. R. remained

TABLE 3.—QUANTITATIVE EXCRETION OF SALICYL AFTER ADMINISTRATION OF NOVASPIRIN

Subject	Quantity of Novaspirin Administered, Gm.	Quantity of Salicyl * Excreted, Gm.	Total Percentage of Novaspirin Excreted†	Duration of Excretion, Days
D. S.	10	1.08	17.3	3
H. R.	16	2.43	23.4	4
W. B.‡	13	1.19	14.8	3

* Expressed as salicylic acid.
† By calculation from the total excretion of salicyl.
‡ Vomited 3 gm.; was not able to tolerate 16 gm.

febrile because of a complicating bronchopneumonia on the third day of treatment. However, the symptoms of rheumatic fever had completely disappeared when the bronchopneumonia was recognized.

Comparison with salicylate in these patients was again precluded because of the complete recoveries after the administration of neocinchophen. It remains to be seen whether neocinchophen can sustain this reputation with a larger series of patients. The small number of cases reported by us does not permit the drawing of final conclusions, although, as will be seen later in the text, neocinchophen, though weaker in action than cin-

3. Heller, E.: Berl. klin. Wchnschr. **48**: 526, 1911.
4. Bendix, H.: Therap. d. Gegenw. **53**: 301, 1912.
5. Klemperer, G.: Therap. d. Gegenw. **15**: 257, 1913.
6. Smith, C. A., and Hawk, P. B.: Action of Atophan and Novatophan in Gout and Iritis, Arch. Int. Med. **15**: 181 (Feb.) 1915.
7. McLester, J. S.: Studies on Uric Acid of Blood and Urine, with Special Reference to the Influence of Atophan, Arch. Int. Med. **12**: 739 (Dec.) 1913.

chophen and salicylate, appears promising and offers some advantage over these agents as indicated by the somewhat less pronounced side actions.

Novaspirin.—This compound was found to be entirely worthless in rheumatic fever. This is indicated by the data in Table 1 and the temperature curves of Chart 3. To three different patients, 8, 10 and 11 gm. were administered. Not one was relieved of the subjective and objective symptoms of the disease. In fact, the temperature continued to rise during the medication in one patient (L. A.) and remained practically unchanged in the other two patients (W. W. and H. R.) Intense pains in the joints, which remained swollen and red continued, and the patients were so miserable that it was necessary to secure prompt relief by other measures.

TABLE 4.—SUMMARY OF RENAL, FUNCTIONAL AND URINARY CHANGES PRODUCED BY CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN*

Patient	Diagnosis	Total Dose, Gm.	Albuminuria		Casts and White Blood Corpuscles		Phenolsulphonephthalein Excretion: Percentage in 2 Hours		Phenolsulphonephthalein Excretion: Time of Test After Last Dose of Drug	Phenolsulphonephthalein Excretion: Diminished (—) or Increased (+) by
			B	A	B	A	B	A		
			Cinchophen							
F	Aortic insufficiency with edema	10	+ ft. tr.	+ m. iner.	+ oc.	+ iner.	5	0	(2 hrs. and 23 hrs.)	—100%
B	Permanent rheumatic endocarditis; mitral stenosis	10	—	+	—	+	35	28	(23 hrs.)	—20%
C	Normal	10	—	—	—	—	43	26	(5½ hrs.)	—40%
B. C.	Rheumatic fever	13 then 12	+ (?)	—	—	—	Urine examined "at toxicity" or immediately after last dose of drug			
L. W.	Rheumatic fever	13	—	—	—	—				
T. D.	Convalescent rheumatic fever	12	—	—	—	—				
M. D.	Convalescent rheumatic fever	13	—	—	—	—				
A. T.	Rheumatic fever	12	—	—	—	—				
J. R.	Subacute arthritis	13	—	—	—	—				
H. R.	Rheumatic fever	10	+ ft.tr.	+ tr.	+ oc.	+				
W. W.	Rheumatic fever	11	+ ft.tr.	+ ft.tr.	+ oc.	+				
L. A.	Rheumatic fever	11	—	—	—	+ oc.				
S.	Convalescent from erysipelas	8	—	+ ft.tr.	—	—	50	39	(3 hrs.)	—34%
M.	Convalescent from pneumonia	8	—	—	—	+	50	16	(3 hrs.)	—68%
J. K.	Chronic arthritis	19	—	—	+ oc.	+ oc.				
J. B.	Rheumatic fever and acute myocarditis	11	—	+	+	+				
H. W. (boy 13 yr.)	Rheumatic endocarditis; febrile	4								
			Neocinchophen							
Se.	Cerebrospinal syphilis	5	—	—	+	+ iner.	36	51	(3 hrs.)	+42%
St.	Convalescent pleurisy	5	—	—	—	+	32	41	(3 hrs.)	+28%
Ra.	Convalescent laryngitis	5	—	—	—	+ sl.	31	21	(3 hrs.)	—32%
C. A.	Rheumatic fever	14†	—	+ tr.	+	+	37	41	(11 hrs.)	+11%
G. K.	Rheumatic fever	16	+	—	+	+ oc.	47	41	(18 hrs.)	—12.6%
E. W.	Convalescent from pneumonia	10	—	—	—	—	63	42	(5½ hrs.)	—33.5%
Ru.	Convalescent from chronic arthritis	10	—	—	—	—	57	33	(5½ hrs.)	—42%
Ri.	Syphilis	10	—	—	—	—	32	60	(2 hrs.)	+88%
								44	(23 hrs.)	
S. R.	Rheumatic fever	26	—	+	+	+ iner.	65	75	(24 hrs.)	+15%
J. R.	Subacute arthritis	13	—	—	—	—				
			Novaspirin							
H. R.	Rheumatic fever	8	+	+	+ oc.	+ oc.				
W. W.	Rheumatic fever	10	—	—	—	—				
L. A.	Rheumatic fever	11	—	—	—	+ oc.				

* The plus sign (+) means present or increased, the negative sign (—), absent or diminished; abbreviations have meanings as follows: oc., occasional; incr., increased; tr., trace; ft., faint; sl., slight; m., marked; B, before; A, after drug.
† No relief after 4 gm.; first relief noticed after 10 gm.; complete relief after 14 gm.

Through a misunderstanding of orders, cinchophen was prescribed for all three patients instead of sodium salicylate, which was originally contemplated as the standard for comparison. However, the cinchophen gave complete relief from all symptoms promptly and efficiently in the same way as in the patients treated with cinchophen alone described above. Therefore, the unexpected administration of cinchophen served our purpose admirably. In Patient H. R. the temperature had fallen considerably before the administration of cinchophen was begun. However, the remaining objective, and also subjective, symptoms had not been ameliorated until the cinchophen medication was instituted.

A further indication of the general inactivity of novaspirin on various functions is the absence of changes in pulse rates of all three patients, as shown by the results in Table 5. A slowing of the pulse would be expected from the doses of novaspirin used, namely, 8, 10 and 11 gm., if complete decomposition of the compound with liberation of the salicyl occurs. Theoretically, the quantities of novaspirin used should yield about 5.8, 7.3 and 8.0 gm. of sodium salicylate, respectively. Apparently, however, complete decomposition of the compound does not take place in the alimentary tract. This is indicated by the following data obtained on three other persons.

Novaspirin, or anhydromethylenecitryl-salicylic acid, is supposed to be decomposed in the alimentary canal with the liberation of salicylic acid, really sodium salicylate in the presence of the alkaline juices of the intestine. Therefore, an idea of the absorption of the compound could be gained from a quantitative study of its excretion, and, consequently also, its therapeutic efficiency. This was done on three convalescent and practically normal persons. Doses of 10, 13 and 16 gm. were administered to the different subjects, and their urines were collected until they ceased to give positive tests for salicyl. This was ascertained by the application of ferric alum to the ethereal extracts of the acidified urines. The salicyl was then estimated by the distillation colorimetric method previously described by Hanzlik and Thoburn.[8] The results obtained are presented in Table 3.

These show that only a very small portion of the salicyl contained in novaspirin is excreted in urine. The recoveries amounted only to 14.8, 17.3 and 23.4 per cent. The excretion lasted three days in two patients (D. S. and W. B.) and one day longer, i. e., four days,

8. Hanzlik and Thoburn: J. Biol. Chem. **23**: 163, 1915.

in another (H. R.), who received the largest dose. Accordingly, therefore, the inefficiency of novaspirin as an antirheumatic agent is ascribed to an inadequate concentration of the salicyl (liberated from it) in the circulation and tissues. Presumably, the compound is only partially decomposed in the alimentary tract, for under similar conditions, sodium salicylate has been shown to be almost completely absorbed, and up to about 80 per cent. of it is excreted in the urine of normal persons.[9] The low excretion of salicyl after novaspirin could not be due to retention, since the urines were collected until the excretion was completed.

The fate of the undecomposed novaspirin was not ascertained. Presumably, it is expelled with the feces. One subject (W. B.) vomited 3 gm., only 13 gm. of the 16 gm. intended for him having been retained. No symptoms of intestinal disturbance were experienced by any of the subjects. In view of the very small quantities of salicyl excreted in urine after the very large doses of the drug administered to these subjects, further study of the absorption and ultimate fate of the undecomposed novaspirin was deemed unprofitable. This was regarded as irrelevant to the problem under discussion, for the therapeutic efficiency of a salicyl compound (novaspirin included) in rheumatic fever depends chiefly, if not exclusively, on an adequate concentration of the salicyl group in the tissues. In practice, prompt and complete relief in rheumatic fever is obtained by the administration of massive doses, rapid and prompt absorption, resulting in high concentration in the tissues with corresponding prompt and marked analgesic and antipyretic effects. This could not be attained by a slowly decomposable, relatively unabsorbable and, therefore, therapeutically inefficient compound, such as novaspirin. Further proof of the inefficiency of novaspirin is the total absence of symptoms, of salicylism ("toxicity") after the very high doses that were administered to the various individuals in this study.

TABLE 5.—EFFECTS OF CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN ON PULSE RATE IN FEBRILE AND AFEBRILE INDIVIDUALS

Patient	Drug Administered	Dose, Gm.	Pulse Rate Before Administration	Pulse Rate After Administration (Maximal Slowing)	Change in Pulse Rate	Febrile or Afebrile Condition
L. A.	Cinchophen....	11	85	74	Slowed	Febrile
W. W.	Cinchophen....	11	100	72	Slowed	Afebrile
H. R.	Cinchophen....	10	100	91	Slowed	Febrile
J. B.	Cinchophen....	11	60	95	Increased	Febrile
J. K.	Cinchophen....	19	75	60	Slowed	Afebrile
A. T.	Cinchophen....	12	126	72	Slowed	Febrile
B. C.	Cinchophen....	13	122	60	Slowed	Febrile
L. W.	Cinchophen....	13	75	72	Slowed	Febrile
H. W.	Cinchophen....	4	120	115	Slowed	Febrile
J. R.	Cinchophen....	13	95	72	Slowed	Afebrile
C. A.	Neocinchophen	14	80	60	Slowed	Febrile
G. K.	Neocinchophen	16	95	82	Slowed	Febrile
S. R.	Neocinchophen	26	115	87	Slowed	Febrile
J. R.	Neocinchophen	12	95	85	Slowed	Febrile
L. A.	Novaspirin.....	11	82	80	Unchanged	Febrile
W. W.	Novaspirin.....	10	100	100	Unchanged	Febrile
H. R.	Novaspirin.....	8	120	120	Unchanged	Febrile

From all this, it is justifiable to conclude that novaspirin is therapeutically inert and worthless in the treatment of rheumatic fever.

SYMPTOMS OF SALICYLISM OR TOXICITY

Cinchophen.—The majority, or 65 per cent., of seventeen persons receiving variable doses of cinchophen exhibited signs and symptoms of salicylism (Tables 1 and 4). These consisted of headache, dizziness, fulness of the head, buzzing in the ears, nausea, sometimes vomiting, and pain in the epigastrium. Patient J. B., who received 11 gm., exhibited a rather pronounced delirium of about twelve hours' duration. With the exception of pain in the epigastrium, the remaining symptoms are the same as those caused by full therapeutic doses of salicylate, though less severe. Practically all of the patients receiving cinchophen complained of pain in the epigastrium, presumably due to gastric or intestinal colic from local irritation of the free phenylcinchoninic acid. No attempt was made to correct this by the administration of bicarbonate or other alkalis, and the symptom disappeared uneventfully. One of us (P. J. H.) can testify to the occurrence of rather disagreeable dull pains in the epigastrium and intestine of four days' duration after the ingestion of 2 gm. of cinchophen for headache. This is rather unfavorable to the use of cinchophen, and agrees with the observation of Heller that cinchophen causes gastric irritation and anorexia.

For convenience, the effects on pulse and respiration may be discussed in this connection. Changes in respiratory rate produced by cinchophen were negligible and require no further consideration. The pulse rate, however, was definitely and considerably slowed in the majority of ten persons, who received doses ranging from 4 to 19 gm. This is indicated by the results presented in Table 5. Since the pulse was slowed in afebrile as well as febrile individuals, the slowing did not occur as a result of antipyretic action of the drug, but rather of direct circulatory (presumably cardiac) depression. This is more or less characteristic of all aromatic derivatives, and also occurs with large doses of salicylate.

Neocinchophen.—Of ten individuals receiving doses ranging from 5 to 26 gm. of the drug, only two, or 20 per cent., exhibited definite signs and symptoms of salicylism (Tables 1 and 4). The doses administered to these two patients were 14 and 16 gm., respectively. The symptoms produced were relatively mild and qualitively about the same as those produced by cinchophen. Neocinchophen, therefore, seems to possess some advantages over cinchophen and also salicylate. This is apparently due to its relatively low solubility in water and weak alkalis. Correspondingly, also, somewhat higher doses are necessary for relief in rheumatism than with cinchophen.

The pulse rates in the four individuals that were observed were definitely, though variably, slowed (Table 5). Whether this occurred as a result of the antipyretic action, or was due to a direct action of the drug cannot be said, since all of the patients were febrile before medication was begun.

Novaspirin.—No symptoms of "toxicity" whatsoever were observed in any of the six individuals observed, who received doses ranging from 8 to 16 gm. of the drug.

In the three patients that were observed, the pulse rate remained unchanged after doses of 8, 10 and 11 gm. These results agree in general with the claims of the manufacturer as to absence of tinnitus aurium and cardiac depression after the administration of novaspirin. However, this is not surprising, since the totally negative results, both as to therapuetic relief and to symptoms of toxicity, are easily explained by the inadequate liberation of salicyl from the drug in the body.

9. Hanzlik, Scott and Thoburn: J. Pharmacol. & Exper. Therap. **9**: 247 (Feb.) 1917. Hanzlik and Wetzel: Ibid. **14**: 25 (Sept.) 1919.

RENAL INJURY

Cinchophen.—According to the results presented in Tables 1 and 4, a moderate degree of albuminuria and, occasionally, casts and white blood corpuscles, were demonstrated in five, or 71 per cent., of the seven individuals that were properly observed. The remaining nine exhibited either no increase in or no albuminuria at the time of "toxicity" or immediately after the last dose of cinchophen. It is possible that not enough time had elapsed for a full development of the action on the kidney, and, therefore, the results from these nine individuals are not conclusive. The seven who were examined from three to twenty-three hours after the last dose of cinchophen showed the presence of albumin in the majority. However, the severity of the albuminuria was certainly much less than that caused by corresponding doses of salicylate previously reported. There seemed to be no constant relation between dosage and the occurrence of albuminuria.

Concerning the functional efficiency of the kidney, the data in Tables 1 and 4 indicate that this was considerably diminished, so far as the excretion of phenolsulphonephthalein is concerned. The five individuals that were observed uniformly excreted less phenolsulphonephthalein after than before administration of the cinchophen. This diminution amounted to from 20 to 100 per cent., and did not appear to be influenced by the dosage. These results, taken together with those on albuminuria, show conclusively that cinchophen in large doses, such as are necessary in the treatment of rheumatic fever, is injurious to the kidney. This denies the assertion of Friedberg [10] that renal irritation can be avoided by the use of atophan (cinchophen) in the treatment of rheumatic fever, and that of Bendix as to undesirable side actions.

Neocinchophen.—The results in Tables 1 and 4 indicate that only 50 per cent. of the ten individuals that were observed showed the presence of albumin or formed elements (casts and white blood corpuscles) in their urines. These urines were examined in from three to twenty-four hours after administration of the last dose of neocinchophen, allowing in this way sufficient time for the development of the action on the kidney. The albuminurias that appeared were even less severe than those caused by cinchophen, and certainly much less severe than those observed after corresponding doses of salicylate previously reported.

The lack of uniformity in the occurrence of albuminuria agrees with the variable results on excretion of phenolsulphonephthalein. Only 44 per cent. of the nine persons that were observed showed diminutions in the excretion of the dye; these ranged from 12.6 to 42 per cent. The remaining subjects exhibited increases in excretion, ranging from 11 to 88 per cent. The tendency of the individual results was toward a moderate diminution in excretion by some of the persons observed, with a greater tendency to increase in excretion by the majority. The variability in excretion cannot be accounted for by differences in dosage of neocinchophen, for variations occurred with both very small and large doses. What was responsible for the variation is not known. Nevertheless, it may be concluded that neocinchophen is variable, though less injurious to the kidney than cinchophen, and distinctly less so than salicylate.

No attempt will be made here to reconcile our results with the apparently conflicting results of Myers and Killian [11] with cinchophen and neocinchophen, since these are as yet but incompletely reported. It is conceivable that the dosage may be the determining element.

COMPARISON WITH SALICYLATE

It is quite evident that the actions and therapeutic effects of cinchophen and neocinchophen resemble those of the salicylates. This is as would be expected from their close chemical relation, all of them being aromatic derivatives. Our results do not indicate that cinchophen and neocinchophen are more efficient therapeutically than salicylate. This is deduced from the dosage necessary to give complete relief, rather than by direct comparison with salicylate, which was precluded. As far as total dosage is concerned, cinchophen would appear to be about equal to salicylate. Neocinchophen, because of its low solubility and consequently diminished absorbability, needs to be administered in larger quantities than either cinchophen or salicylate. Some relief is obtainable by less than "toxic" doses of both cinchophen and neocinchophen. The same holds true of salicylate and other analgesics. For instance, it is a common practice in many hospitals to administer codein or morphin when the rheumatic patient first arrives with the object of mitigating the intense pain. Relief is usually obtained temporarily, and the same undoubtedly is obtained by small doses of the coal-tar analgesics (cinchophen, salicylate, etc.). However, complete relief follows only after intensive administration of massive doses of these remedies.

As to the appearance of undesirable side actions ("toxicity"), cinchophen, and especially neocinchophen, appear to have some advantage over salicylate. The differences are mainly quantitative. Qualitatively, the symptoms of salicylism produced by cinchophen are almost indistinguishable from those of salicylate. The only qualitative difference from salicylate was the presence of epigastric pain complained of by the majority of our patients receiving cinchophen. This is not an accompaniment of the symptoms of salicylism after salicylate, and also was not present in our patients after the administration of neocinchophen. Presumably, the pain is due to local irritation by the cinchophen (phenylcinchoninic acid) in the same manner as that produced by free salicylic acid. The simultaneous administration of bicarbonate would tend to mitigate this by conversion of the compound into the less irritating sodium salt in the same way as sodium salicylate is less irritating than salicylic acid. However, this was not tried, our object being to compare the different drugs themselves directly without the intervention of other agents.

Neocinchophen is less irritating, because it is less soluble. Correspondingly, the absorption is also less, and this is indicated, to some extent at least, by the greater dosage necessary for partial and complete therapeutic relief than with cinchophen. In some cases neocinchophen appears to be quite innocuous. One patient (S. R.) received a total of 25 gm. in twenty-five hours at the rate of 1 gm. per hour, without marked disturbances of any kind whatsoever, even in the renal excretory function. On the contrary, the excretion of phenolsulphonephthalein was increased, and albumin disappeared from the urine.

Concerning renal injury, as judged by the appearance of albuminuria and excretion of phenolsulphonephthalein, neocinchophen and cinchophen present

10. Friedberg: Fortschr. d. Med. **31**:318, 1913.

11. Myers and Killian: J. Biol. Chem. (Proc.) **46**: 17, 1921.

certain advantages over salicylate. Of the two, neocinchophen appears to be less injurious than cinchophen. The albuminurias produced by both neocinchophen and cinchophen were certainly less intense than those produced by the administration of salicylate in corresponding doses. "Toxic" doses of salicylate were invariably found to cause albuminuria, and frequently this was so severe that the ordinary heat and acetic acid tests gave voluminous precipitates of albumin which could be easily photographed in test tubes. On the other hand, the albuminurias after the administration of cinchophen and neocinchophen were variable and characterized by very small precipitates, at times amounting only to traces, though nevertheless definite; but in every case distinctly less pronounced than the albuminurias after the administration of salicylate. The occurrence of casts and white blood corpuscles after the administration of cinchophen and neocinchophen, though observed, is obviously fraught with greater danger of misinterpretation as to cause than even the albuminuria. The presence of these formed elements seemed to be inconsequential. However, more data are necessary before anything definite can be said about this.

The effect of cinchophen on renal functional efficiency was definitely and markedly reduced as indicated by the diminished excretion of phenolsulphonephthalein in the five individuals that were observed, and independently of the dosage. On the other hand, neocinchophen was variable. Less than one half of the nine individuals that were studied exhibited a diminution in the excretion of the dye, and this in some cases was practically negligible. On the contrary, the majority of individuals showed either a definite and quite marked increase or no change in the excretion of the dye. These effects occurred independently of the dosage. According to this, the effects of cinchophen resemble those of salicylate, which almost invariably lessened the excretion of phenolsulphonephthalein. Neocinchophen differs to some extent from both salicylate and cinchophen by increasing the excretion in at least one half the individuals studied by us. In this respect, therefore, cinchophen would have no advantage over salicylate, while neocinchophen would appear to possess some advantage, though not uniformly, and this cannot be predicted. Even though neocinchophen does improve the renal excretory power for certain dyes and metabolites, it does not follow from this that its value as an antirheumatic remedy has been enhanced thereby. On the contrary, it might be argued, that this hyperfunction of the kidney is an evidence of early nephritis, as has been suggested by some from observations on "hyperpermeability" or "superpermeability" of the kidney to other agents; and if so, the administration of neocinchophen is injurious. Mere speculation, however, does not help; a complete pharmacologic study of the actions of neocinchophen and cinchophen is needed.

Our data indicate that novaspirin is worthless in rheumatic fever. This is due to the inadequate concentration of salicyl in the tissues, which is due in turn to the relative insolubility of the compound and poor absorption from inadequate liberation of salicyl from it in the alimentary tract. The use of novaspirin in place of the more soluble and absorbable and also more therapeutically effective sodium salicylate is illogical and irrational.

CONCLUSIONS

1. Cinchophen gave partial relief from symptoms in rheumatic fever with doses of from 3 to 6 gm., and complete relief with doses of from 10 to 13 gm. (seven patients), while neocinchophen required a somewhat higher range of dosage, namely, from 3 to 8 gm. for partial, and from 11 to 16 gm. for complete relief (three patients).

2. Novaspirin was therapeutically worthless in the treatment of rheumatic fever (three patients) not giving even partial relief from subjective symptoms. This is due to inadequate concentration of salicyl in the tissues, as indicated by the low (from 14.8 to 23.4 per cent.) excretion of salicyl in urine after large doses of the drug.

3. Large doses of cinchophen and neocinchophen, such as are necessary in the treatment of rheumatic fever, produce characteristic symptoms of salicylism ("toxicity") which, however, are less pronounced than those caused by corresponding doses of salicylate. Cinchophen differs from salicylate by causing epigastric pain owing, presumably, to local irritation by the drug. Pain in the epigastrium was absent after large doses of neocinchophen, presumably because of its relatively low solubility in water and weak alkalis, possibly also because it is an ester.

4. Large doses of cinchophen were found to slow the pulse rate of both febrile and afebrile individuals, and the same occurred after neocinchophen in febrile patients. Therefore, the cardiac slowing produced by cinchophen is due to a direct depressant action on the circulation.

5. Cinchophen is injurious to the kidney, as indicated by the occurrence of albuminuria, and sometimes casts and white blood corpuscles, in the majority of seven individuals that were observed, and a diminution in the excretion of phenolsulphonephthalein in the five individuals that were studied. Neocinchophen is variable, albuminuria, and a diminution in the excretion of phenolsulphonephthalein occurring in about one half of the nine individuals that were observed.

6. As compared with salicylate, cinchophen appears to be about equally efficient, while neocinchophen is somewhat less efficient, as judged by the dosage necessary for therapeutic relief in rheumatic fever. The symptoms of "toxicity" are about the same and renal injury somewhat less after cinchophen, and both the "toxicity" and the renal injury are less pronounced after neocinchophen than after salicylate in corresponding doses.

7. Further observations on the therapeutic use of cinchophen and neocinchophen in rheumatic fever, and a study of their pharmacologic actions, are desirable.

Wet Grinding Dangerous Occupation.—In a report prepared by Dr. W. Herbert Drury, U. S. Public Health Service, the revelation is made after an exhaustive investigation that grinding and polishing by wet process in factories instead of being a dustless and innocuous employment is under certain conditions a dusty and exceedingly dangerous process. Dr. Drury shows that in a large ax factory the death rate from tuberculosis among the workers in the grinding and polishing shops, who for six hours a day breathe the atmosphere of relatively high humidity heavily laden with acutely angular hard siliceous duct is 19 per thousand; and that of other workers in the same mill but not in the grinding and polishing shops is only 1.6. Pulmonary infections other than tuberculosis showed 4.3 deaths per thousand among polishers and grinders as against 1.7 per thousand among other mill workers.

A PLEA FOR BETTER UNDERSTANDING OF PHYSICAL DIAGNOSIS

THEODORE TIEKEN, M.D.
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Of the methods of examination now so universally recognized, the ancients employed but two, namely: inspection and palpation. Inspection was quite generally employed, but palpation was used only in special cases, as in the examination of fractures, dislocations, enlarged glands, tumors or marked deformities, and for the purpose of determining the presence of fever, pain, tenderness and swelling.

The first intimation we have of any other method of examination was in 360 B. C., when Hippocrates accidentally discovered the succussion splash while examining a patient suffering from a condition which we now recognize as hydropneumothorax. Later he was able to demonstrate this phenomenon again by placing his ear to the patient's back and shaking him vigorously. Because of the infrequency of the pathologic conditions necessary to produce succussion sounds, the method soon fell into disuse and direct auscultation was forgotten.

Throughout the middle ages there was practically no advancement in the study of clinical medicine and no further development in the art of physical diagnosis. During this period, called the scholastic period, philosophy ruled supreme, and more recent writers have referred to it as the age of dreamers.

How little progress had been made in the study of clinical medicine and pathology is well illustrated in a description in 1670 of pneumonia by Willis, a leading practitioner and teacher of his day. He wrote: "The essential cause of this disease is believed to be a boiling of blood in the narrow air passages of the feverish lung, sticking to the walls of the more narrow passages, engendering there an obstruction, causing inflammation." It is needless to say that the pathology of pneumonia was unknown and that carefully conducted necropsies were not the rule at that time.

Even the great Syndenham had but little knowledge of pathology and physical diagnosis, yet his clear description of the symptoms of disease, in 1683, has seldom been equaled. Morgagni, from his experience in the mortuary, was quite familiar with gross pathology and the appearance of the human viscera after death, yet he knew very little of the principles of physical diagnosis. His examination of the living was confined to inspection and palpation. Boerhave, founder of the Leyden School of Medicine, was one of the most noted teachers of his day, and students from all parts of Europe flocked to his clinic in order to learn his methods; yet he taught practically nothing of physical diagnosis. His method consisted of a study of the symptoms, a painstaking inspection of the patient, a discussion of the clinical course of the disease, and an outline of the treatment that should be carried out in each particular case. His methods were introduced into England, Scotland and France, and he became so famous that he was called by his followers the "Dutch Hippocrates."

One of his most distinguished pupils, Sir John Rutherford of London, introduced the Leyden methods of teaching at the Royal Infirmary in 1747. How little he knew of physical examination is well illustrated by this quotation from one of his public lectures: "I shall show you the patient, give you a history of his disease in a general way, inquire into the cause of it, then give you my opinion how the disease is likely to terminate, and outline the treatment." Nothing is said of the physical signs of the disease or of any examination having been made, and we must infer that none was made. I have searched through the available literature of that time and consulted all the books on the history of medicine, but am unable to find any recorded instances in which reference is made to a general physical examination, as we understand it today. Up to this time the sense of sight had dominated all physical examination. It is true that, in rare instances, inspection was supplemented by palpation; but percussion and auscultation apparently were unknown.

Later in the reformation period (1761), there appeared in Austria a little book designated "Inventum Novum ex Percussione," Auenbrugger, in which was described a new method of physical examination, namely: "direct or immediate percussion." Auenbrugger had fully developed this method and had confirmed his contentions and principles by numerous postmortem examinations, yet his claims were ridiculed by his contemporaries. This illustrates again the fact that a great truth prematurely announced is often met with ridicule and opposition, and dies for the time being, only to burst forth with renewed life at some future and more appropriate time. So it was with Auenbrugger's immediate percussion. The time was not ripe, and the art of percussion had to wait for the keen mind of Corvisart, to be rediscovered and placed in its proper sphere in the medical world. Corvisart might easily have claimed the method as his own, for it was just fifty-seven years after the appearance of the "Inventum Novum ex Percussione," Auenbrugger, that he presented the results of his experiences with the method of direct percussion to the medical society of his home town near Paris. Baron Corvisart is to be admired for the magnanimous manner in which he presented his paper, which began: "It is he (Auenbrugger) and his beautiful invention, which rightfully belongs to him, that I wish to recall to life and present to the medical profession anew." Corvisart, although a man of great wealth and culture, was an ardent student of medicine and science. Later he became one of the foremost teachers in Paris and had for his pupils such men as Dupuytren, Cuvier and Laënnec, names which will live forever in the annals of medicine.

In 1828, Pierre Adolph Piorry invented the pleximeter, and to him we owe the discovery of indirect or mediate percussion. This method was accepted at once and became very popular in France and the neighboring countries of Europe. The hammer percussion, although it has much to commend it, has never become popular in America, where the finger percussion is almost universally employed.

WORK OF LAËNNEC

Although auscultation by the direct method had been practiced from time to time since the days of Hippocrates, it remained for the great Laënnec to place it on its proper plane. His invention of the stethoscope in 1819 marked a new era in the advancement of physical diagnosis. Although his first stethoscope was merely a cylindric roll of paper, it demonstrated a principle which was at once accepted by all thinking medical men. An instrument having an ear piece and a bell shaped

end to fit the chest was soon produced. This proved very efficient, and the monaural stethoscope became at once popular throughout Europe, where it is still the instrument of preference. Later a binaural, with all its modern attachments, was developed, and this is the instrument of choice with us.

To Laënnec belongs the credit of discovery and development of the art of auscultation. He justly became the most widely known and highly esteemed clinician of Europe, and by his painstaking research laid the foundation for all accurate knowledge of the diseases of the chest. He developed the entire field of physical diagnosis, applying all the then known methods to the study of disease, and compared the physical findings with the pathologic conditions found in the mortuary. He not only put the diagnostic sounds of cardiac and pulmonary disease on a firm basis, but was the first to recognize bronchiectasis, pneumothorax, hemorrhagic pleurisy, and emphysema of the lungs. The condition known as Laënnec's cirrhosis was first recognized and described by him. Laënnec was the originator of most of the descriptive terms now used in physical diagnosis. Such terms as egophony, pectoriloquy, bronchophony, sibilant and sonorous râles, and rhonchi originated in his fertile brain. It can be truthfully said that Laënnec did more for physical diagnosis and clinical medicine than any other man before or since his time. To us who teach physical diagnosis, his work is a revelation, and he inspires us to attempt to do better work ourselves. When we consider what he has done for medicine in the field of physical diagnosis, and how little has been added since, we realize that his was a master mind.

Louis (Pierre Charles Alexandre), one of his pupils, carried on the work enthusiastically and, by closely comparing the symptoms and physical signs with the findings after death, he was able to correlate the physical signs and the anatomic changes of disease. Other clinicians soon caught the spirit. Clinical medicine was revolutionized by carrying the hippocratic method from the bedside to the mortuary and there comparing the signs and symptoms of disease with the conditions found after death. Careful records of such studies were kept at all the leading institutions of learning, and competition became keen in the various medical clinics of Europe. Physical diagnosis was now at its zenith. Physicians at these clinics became experts in physical diagnosis and prided themselves on their diagnostic skill. But alas! all was changed in a few years. With the advent of laboratory diagnosis, physical examinations became a neglected art. For many years it was taught only in a haphazard manner by physicians who knew little of the subject themselves and imparted less to their students.

NEGLECT OF PHYSICAL DIAGNOSIS

The pendulum of learning swung into the new field. Less and less time was given to the study of the old methods, until we became a nation of bacteriologists, chemists and pathologists. For years, physicians and many of our well known teachers have leaned so much toward laboratory methods that physical diagnosis has almost become a lost art. Patients frequently are sent to the diagnostic laboratories without a pretense of a physical examination before hand. (Oh, for another Laënnec to make us see the light again!)

Later came the specialties: eye, ear, nose and throat; skin and venereal diseases; immunity; hygiene and sanitation, and now, the study of the chemistry of metabolism. Time must be found for all these subjects and, in consequence, the fundamental branches suffer. Even the addition of the fifth or hospital year has not helped us very much, because the fundamental subjects must all be given in the prescribed four year course. We must demand more of the fundamental sciences in our premedical course, and need an additional year to cover all the required work. There is just a little tendency to make research workers and specialists out of our students instead of the good old fashioned family doctor.

Why does the physician make so many mistakes in diagnosis? Is it because he cannot make a Wassermann test or a complement fixation? That he cannot make a differential blood count or a careful blood culture? Find the ova of *Ancylostoma duodenale* or *Dibothriocephalus latus* in the stool? No! most emphatically No! It is because he does not make a thorough physical examination of his patient; or, if he does, he is not able correctly to interpret his findings. He may be able to recognize certain changes in the respiratory function or in the heart sounds, but because of a lack of experience in the practical work in physical diagnosis under an experienced instructor, he is unable to determine the cause.

THE ART OF PHYSICAL DIAGNOSIS

Physical diagnosis is an art. It appeals to all our senses; and in order to develop these senses, we must have experience. We must develop our powers of observation, if we hope to become experts in inspection, and this department of physical diagnosis is by far the most important. He who sees most by inspection will become the best diagnostician. The sense of touch needs developing, and to learn what to feel and how to feel it best needs long practice and close application. To feel a thrill, a friction rub, the heart shock and apex beat, to palpate the liver, spleen and kidney, all need careful training and long experience. Percussion calls for the development of the sense of touch and hearing, but particularly, for constant training in the proper technic. It is very difficult for the beginner, and many physicians never properly learn the art of percussion at all. The use of the direct and indirect methods must be practiced constantly over a long period, in order to become proficient, and this can be learned only by careful supervision.

Auscultation, either the direct or the indirect method, needs long and careful training under the most favorable conditions. The use of the stethoscope should always be supplementary to the use of the unaided ear, whenever such a course is possible, because we can hear so much more and hear it better with the unaided ear, if we learn how to use it. The stethoscope may be more suitable for examinations of the heart; but for pathologic conditions of the lung it should be confirmatory, and be used to analyze the sounds heard by direct auscultation. The ear should be the low power lens and the stethoscope the high power, to examine the condition in detail.

Mensuration is of value in certain conditions, and every medical man should have a good tape measure and learn how to use it.

Fluoroscopic examination and roentgenography should never be used until a most thorough physical examination has been made and the results of this examination carefully recorded on the history sheet. These should be confirmatory only; and, if used in this manner, both

methods are of the greatest value in physical diagnosis. The interpretation of the pathologic findings needs long and careful training and must be classed as a special branch in diagnosis. From what has been said you must not allow yourselves to think that I am not a believer in laboratory methods, for I am. I am a firm believer in the laboratory, as an aid to diagnosis, but not as a substitute for physical examination.

No one who has not mastered the fundamental branches, anatomy, physiology and pathology, can hope to become a good diagnostician. On this all are agreed. But how shall we be able to use this knowledge in the study of disease, if we are not familiar with the physical signs of the normal living human body?

We must train our students in the art of physical examination by actual experience on the living subject in order that they may become familiar with the normal findings. This means small classes, with competent individual instruction and long experience; frequent repetition to perfect technic. The art of percussion and auscultation can be learned only by concentrated personal effort and unlimited patience. After the student has become familiar with the normal findings, the instructor should demonstrate the abnormal, have him compare the two conditions, and reason out the cause of the difference in the physical signs. Let the student study the difference between the consolidated lung of pneumonia and pleurisy with effusion. The physical signs of each are distinctive, and there should be no difficulty in differentiating the two conditions, if he knows his physical diagnosis and pathology.

Why should there be any question regarding the area of cardiac dulness? The signs are so definite that any one familiar with the art of percussion should have no difficulty in outlining the area of dulness with accuracy. Yet when one sees a comparison of such outlines with fluoroscopic shadows, one soon realizes that not all are perfect in the art of percussion! This should not and need not be, if we train our students in the art of percussion with the same care and thoroughness demanded in the use of the microscope and other instruments of precision.

Why do physicians so frequently mistake pneumonia for appendicitis or gallbladder disease? The physical signs are so characteristic that there should be no chance for error, if a thorough physical examination has been made by one who is familiar with the physical signs of disease.

Why are aneurysms of the aorta so frequently overlooked and these patients treated with a cough mixture? Why is cardiac incompetence so frequently called asthma? Why are patients suffering pain from locomotor ataxia so frequently operated on for gastric ulcer or gallstones?

Ask yourselves these questions and try to answer them truthfully, and you will always come back to the weakest link in the chain of medical education, that is, a lack of a thorough understanding in the art of physical diagnosis.

THE TEACHING OF PHYSICAL DIAGNOSIS

If this subject is so essential to the physician, it is even more necessary for the medical student and it is our duty as teachers to bring about such changes in the curriculum of our schools as are necessary to improve the teaching methods in this very important branch of medicine. Correlation of subjects from beginning to end should be our aim; frequent departmental conferences to assure harmony and similarity in instruction, and conference between the heads of departments and their associates, to outline a definite course of instruction and prevent unnecessary repetition of subjects, thus saving much time for the student. The departments of anatomy, pathology and clinical medicine should harmonize perfectly in order to produce the best results. Anatomic studies on the cadaver should be correlated by physical examination on the living; normal organs should be compared with pathologic conditions in the same organs; the course of a disease, the clinical symptoms and physical signs should all be discussed in relation to the anatomy and pathology, showing how one condition is dependent on the other, and how the physical signs and symptoms are produced. In other words, correlate these subjects so as to establish a closer relationship between the symptoms, physical signs and pathology. This is the ideal way in which to teach physical diagnosis so that it will be of the greatest value to the student of medicine, and enable him to practice his profession more intelligently and render a greater service to mankind.

30 North Michigan Avenue.

NONOPERATIVE TREATMENT OF FRACTURES OF CERVICAL VERTEBRAE WITH CORD INJURY

THE RESULT IN FOUR CASES *

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NEW YORK

During the last three years I have had occasion to observe the end-result in four cases of injury to the cervical vertebrae and cord in which operation was not performed. The problem as to whether, in a given case of cervical cord injury, operation should or should not be performed is always a delicate one, and the decision is always of prime importance to the patient. The question of the indications for operative interference in recent fractures of the spine is efficiently dealt with by Elsberg,[1] who says:

> A most difficult problem is presented to the surgeon when he is confronted with the question whether there is or is not a complete transverse crush of the cord. In many instances the indications for treatment will depend upon the decision he arrives at. Operative interference in a complete transverse crushing of the cord is useless and frequently harmful, but an operation may be urgently necessary if there is no complete transverse lesion. The difficulty is to determine whether there is a transverse crush or whether the symptoms are due to concussion of the cord or to an acute edema of the cord tissue.
>
> There are undoubted cases on record in which some of the reflexes were preserved or where some of the reflexes returned in spite of the presence of a complete lesion. In the majority of instances, however, a complete motor paralysis and loss of sensation below the level of the injury, with loss of all cutaneous and tendon reflexes and paralysis of the bladder and rectum, point to a spinal cord injury of such severity that

* Read in part and patients presented at joint conference of the staffs of the Neurological Departments of Columbia University and New York Post-Graduate Medical School, Jan. 17, 1921.

1. Elsberg, C. A.: Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and Its Membranes, Philadelphia, W. B. Saunders Company, 1916, p. 215.

immediate operative interference is contraindicated. If the symptoms are due to spinal concussion in which considerable lengths of the cord are affected, a local operation will do little if any good, and it may do much harm.

If, on the other hand, the symptoms are due to an incomplete crush or to compression of the cord, there will surely be some improvement within the first few days, and then operative interference will offer much better chances of success.

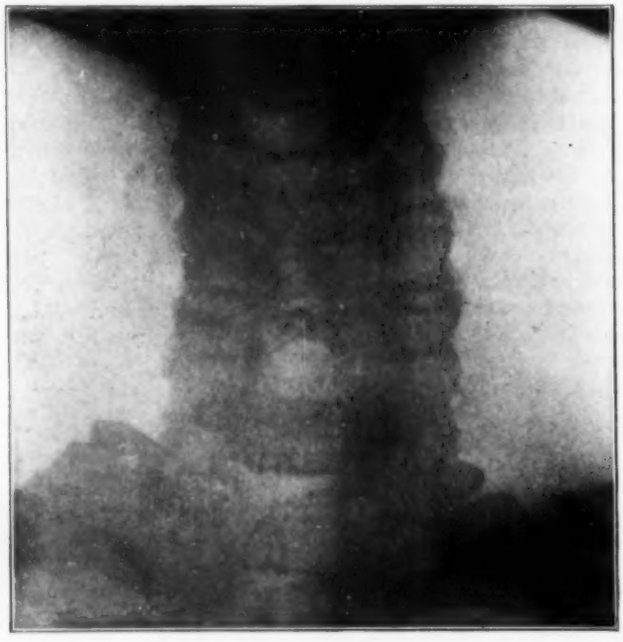

Fig. 1 (Case 2).—Anteroposterior view of cervical vertebrae, showing subluxation between fifth and sixth vertebrae.

When some motor, sensory or reflex power remains immediately after the trauma, and a complete motor and sensory paralysis later supervenes, operative interference should not be delayed, especially if compression of the cord by dislocated or fractured bone or by blood has been demonstrated.

After the decision to interfere surgically is arrived at, one then immediately subjects his patient to the dangers of operation on the cervical cord, which are chiefly liable to cause edema and consequent interference with the functions of the vagus and phrenic nerves, namely, respiratory and cardiac paralyses. The results of operation on the cervical cord resulting from spinal injury are none too good. Elsberg states that without operation "fully 70 per cent. succumb to the immediate or remote effects of the injury." Good functional recoveries, he says, occur most often after cervical injuries, as against injuries to other levels of the cord. Our experience with the four cases reported shows this to be true. The most frequent residuals are pareses in the extremities and atrophies in the small muscles of the hand, with stiffness in one or both of the lower limbs. The loss of sensation accompanying such injuries often leaves only a scant residual. Root pains in our cases seemed to be limited to one upper extremity. All three of our patients who recovered had no residual bladder or rectal disturbances. Elsberg refers to the fact that operations for recent fracture of the spine with injury to the cord have fallen into disrepute, particularly because complete transverse lesions were found. It is true also that it is occasionally impossible to decide whether a given patient has a transverse lesion which is complete or not. It is only after waiting several weeks that one can be definitely sure of this point. The return of superficial and deep reflexes in the extremities, even with known partial cord injuries, may not occur until several weeks after the injury.

Elsberg teaches that unless there is evidence, such as the retention of these reflexes, pointing to a partial lesion, no operation should be performed. Granting that, exceptionally, surgical experience justifies the dictum that partial cervical cord injuries from fracture or dislocation should be operated on, one finds scant basis for this in the statistics showing the general results of such operation in the hands of most operators. Elsberg refers to the quotations of Dr. Quervain, who compiled 218 cases in which the patients were subjected to operation. These were cases of injury to all regions in the vertebral column and to the spinal cord at various levels, and were not limited to cervical cord injuries. Of these 218 patients, 13.8 per cent. were cured, 22 per cent. were improved, 37.2 per cent. were unimproved, 1.8 per cent. were made worse, and 25.2 per cent. died from the operation. Burrell compiled 244 cases of fracture of the spine with a mortality of 64.5 per cent. In this group the operations for injuries in the cervical region gave a mortality of 85.7 per cent. In eighty-two of Lloyd's 185 cases the operation was performed quickly after the injury, with a mortality of 72.2 per cent. Chipault's 167 cases with operation gave a mortality of 78.5 per cent., and Thorburn had a mortality of 67.8 per cent in fifty-six operative cases. In spite of this, Elsberg says that:

> If the cases are carefully selected, the operative results should not be as poor as those quoted and, based upon my personal experience and a study of the literature of the subject, I believe that the results of operative interference are steadily improving. The surgeon who sees many cases and operates only upon the selected ones will have the best results. The greatest improvement will occur in fractures of the lower dorsal and lumbar regions.

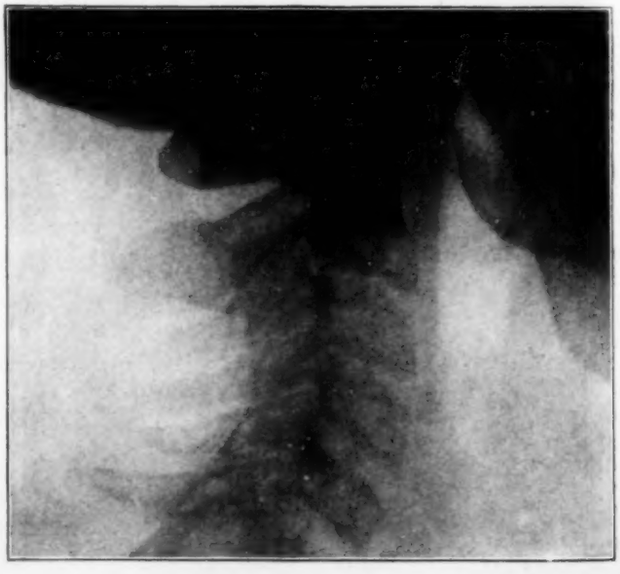

Fig. 2 (Case 2).—Lateral view.

For a long time I have felt that the greatest degree of conservatism should be the proper attitude in dealing with cervical cord injuries, and my experience with the cases reported here makes me more firm in my belief that injuries to the cervical cord, regardless of whether the neurologic signs present indicate a partial or a complete lesion, should be operated on only in

very exceptional cases. While no such case has occurred in my experience with injuries to the cervical vertebrae, I can see how the presence of disabling root pains might some time after the injury be an indication for operative procedure.

REPORT OF CASES

CASE 1.—A man, aged 30, who was injured, July 16, 1920, by falling from a roof across a boiler, striking his back, was not unconscious when found by the ambulance surgeon, and was able to move both upper extremities; but both lower extremities were completely paralyzed. Half an hour later the upper extremities also became involved. The pulse soon became irregular, and breathing difficult. Later the breathing was entirely abdominal. The paralysis of the diaphragm seemed to point to involvement of the second cervical segment (phrenic nerve). When I saw him ten days after the injury, at the Mineola Hospital, Mineola, L. I., the surgeons were seriously considering operating. In view of the fact that all types of sensation in the upper and lower extremities and the entire body up to the fifth cervical level were gone, I strongly advised against operation. There was complete loss of bladder, rectal and sexual functions. The quality of the pulse and breathing pointed to edematous involvement above the level of the injury. All the deep and superficial reflexes in the extremities were gone. Later the plantar reflex on the left side returned. Dr. Elsberg had this patient under observation a few weeks after I saw him at the Post-Graduate Hospital. He refused to operate on him, and the patient died within a few weeks.

The roentgenogram taken at the Mineola Hospital showed fracture dislocation of the body of the third cervical vertebrae and of the spinous process and lamina of the fourth.

CASE 2.—A man, about 44 years of age, was working in a stable, Aug. 11, 1920, when a bale of hay fell from the hay loft and struck him in the back of the head and neck. He immediately became unconscious, and remained so for about an hour. He could neither move his arms nor his legs for ten weeks after the accident, and the legs were drawn up in semiflexion. He had a complete loss of control over the bladder, rectal and sexual functions. He was taken to the Jewish Hospital in Brooklyn, and later to the Kings County Hospital.

The neurologic findings at the hospital, while not detailed as completely as one might wish, seemed to show that there was not a complete lesion of the cord. Instead of there being a total flaccid paralysis, all four extremities were held somewhat spastically in flexion, the deep reflexes being quite active, with the presence of a double Hoffmann sign in the upper extremities but no Babinski reflex on the left side, although the right Babinski reflex was quite active and has remained so to date.

The sensory examination, made soon after the injury, was not very exhaustive but seemed to point to a level lesion situated at about the fifth cervical level. Gradually the patient began to move his arms and legs, and the spastic attitude in flexion was relaxed. Soon complete control over the bladder and rectum returned, leaving a residual difficulty in control to date. The man suffers from urgency and has to void fairly promptly. There is a fair sexual return. About three months after the injury the patient began to walk, and at present the positive neurologic findings are:

Both pupils are small, the right somewhat smaller than the left (spinal myosis). Their reactions to light, accommodation and consensually, however, are perfect. The right pupil is somewhat irregular in outline. The gait is still somewhat stiff, although the patient gets around without a cane, and is able to get up and down stairs and walk for several miles without fatigue. He gets up from the floor in a prone position in the typically infantile way. The deep reflexes show that the right triceps is less active than the left, although the right biceps reflex is the more active one. The right patellar is more active than the left. The right abdominal and cremasteric are the more active superficial reflexes, while the Achilles reflex is slightly more active on the right side. There is a definite right Babinski and double Hoffmann sign. Muscle strength is much greater in the lower extremities than in the upper, but he is gradually recovering power in all four extremities. With the dynamometer he can exert 30 pounds pressure with both hands at present. He complained at first of sharp, shooting pains in the left upper extremity down the inner surface of the arm and forearm and into the ring and little fingers. These have cleared up. There is diminution to pin prick, cotton, heat and cold in the left ulnar distribution, with fairly marked atrophy of the small muscles of the left hand. The deep sensations are hardly disturbed, with the exception of vibratory sensibility in the little finger. The patient does not complain of pain in the neck, but has difficulty in bending the head forward or backward and cannot rotate it with any facility. The most marked limitation is in flexion of the head backward, and this is the only movement that is accompanied by pain. The man's condition is gradually improving. The patient was roentgenographed in the lateral

Fig. 3 (Case 3).—Fracture of odontoid process.

aspect and two anteroposterior aspects by Dr. Leopold Weiss, who reported some subluxation between the fifth and sixth cervical vertebrae. The vertebral column above the sixth vertebra appeared to be pushed to the right and axially rotated.

CASE 3.—A man fell off a skid while at work, July 20, 1919, and landed on the back of his neck. He was unconscious for sixteen hours. He was treated at the Gouverneur Hospital, where a roentgenogram was said to be negative. The recent roentgen-ray examination by Dr. Darling shows injury to the first and second cervical vertebrae. Dr. Darling reports:

"The cervical spine shows definite evidence of a fracture of the odontoid process at the base, with displacement of this and the first cervical directly backward about one-fourth to one-half inch. There is no lateral displacement and nothing to indicate a fracture of the first cervical, the whole of which is displaced backward, as stated, until its spine projects back-

ward one-half inch posterior to the second cervical spine. There would seem to be room for the cord. There is no other fracture or dislocation seen.

"Conclusion: A fracture of the odontoid process of the second cervical with displacement of it and the whole of the first cervical directly backward from one-fourth to one-half inch, and with consequent tilting of the whole of the head upward and backward. There is no lateral displacement. There is a definite amount of bony deposit in the region of the base of the odontoid in its present position, and the appearance is consistent with good union and a bony fusion with the vertebra below, as no line of separation can be made out."

Fig. 4 (Case 4).—Method of treatment.

When the patient regained consciousness he was completely paralyzed in all four extremities, and could not even raise his head. The neurologic examination at the institution, while not extensive, seemed to point to a complete lesion in the upper cervical cord. Three days after the injury he began to move the left lower extremity and hand. On the following day he moved the right leg, and two weeks later was able to move the fingers of the right hand. For four weeks there was complete retention of feces, and for the first few days complete incontinence of urine. On and after the third day the patient was able to void his urine under complete control. He suffered from terrific pains in both upper extremities for a week or more, could hardly talk, and could not swallow. He could not move his tongue; pulse and respirations were rapid and irregular, and there was very little chest movement in breathing. Unfortunately, the only sensations that were tested were tested for by pin prick, cotton, heat and cold. The statements about his sensations were general and not definite. It seems, however, that for three days after his injury there was complete loss of sensation for the things tested below the level of the fourth cervical segment. The patient himself states that they pricked him with a pin and tested him out with the faradic current, and he could not feel either stimulus in any of the four extremities for the first two or three days. Gradually the loss of sensation disappeared, and he had anesthesia only in the right upper extremity, which very slowly cleared up. About four weeks after his injury he was able to get up out of bed, and gradually began to walk by means of holding on to beds and tables and with the aid of a cane.

I saw the patient for the first time, June 29, 1920, less than a year after his injury. At that time, although movements of the tongue in all directions were normal, as were also the movements of the palate, the patient said that he tired easily, especially from eating. He also tired when he talked a lot. This condition gradually cleared up, and now he is able to swallow and talk without difficulty or fatigue. His gait was definitely spastic, more so on the right side, and he walked with his upper extremities abducted somewhat and slightly flexed at the elbows. He complained of severe pains in the neck, radiating down the right hand into the fingers. This has gradually cleared up under treatment. The deep reflexes in both upper and lower extremities were exactly equal but very active, the patellar and Achilles responding with clonus. There is a double Babinski and the only superficial reflex present is the left cremasteric. There was a crossed adductor and periosteal reflex present on both sides. There was definite weakness and spasticity in all four extremities, the most marked being in rotation of both shoulders outward. The neck was freely movable in all directions. With the dynamometer the right hand exerted a pressure of 30 and the left of 25 pounds. This has been increased to 40 for each hand.

Careful sensory examination for all modalities, both superficial and deep, was absolutely negative for objective disturbances. At present the patient is able to get around without a cane; has perfect control over his bladder, rectal and sexual functions, and has shown improvement in muscle strength in all four extremities. The root pains have disappeared but, particularly when the weather is bad, the stiffness in both lower extremities is quite annoying. He is able to raise both hands above his head, and can move both shoulders in all directions. There is no wasting in the left hand muscles, and only very slight wasting in the small muscles of the right hand. This man has not ceased improving, and is responding quite satisfactorily to massage and exercise.

CASE 4.—A man, aged 39, slipped on the ice while carrying a bag of soft coal, Jan. 24, 1920, and struck the back of his head. He was not unconscious, and was able to go home alone. For a few days his head and neck were held rigidly to the left, but gradually this traumatic wry neck was overcome. He also complained of sharp, shooting pains in the left upper extremity, which were at first very annoying and disabling. There was no disturbance of any of the bladder, rectal or sexual functions. He was admitted to the Third Surgical Division of the New York Hospital (History No. 228207), February 18, almost three weeks after the accident, complaining bitterly of the pain in the neck and the left upper extremity.

The neurologic findings were said to be absolutely negative objectively. A roentgenogram which illustrates the fracture of the body of the third cervical vertebra, with posterior angulation of the lower fragment and crush of the body of the fourth cervical vertebra, was taken, February 12, by Dr. Hoag, through whose courtesy I am able to make use of this case for this series. I saw him, Oct. 12, 1920, and he complained only of stiffness in the neck and inability to turn his head and neck to the left because of pain. He made some complaints about the pain in the left upper extremity, which he said was not severe and came only occasionally. My examination was completely negative neurologically, with the exception of a very definite hypesthesia of all qualities of sensation fairly accurately limited to the left ulnar distribu-

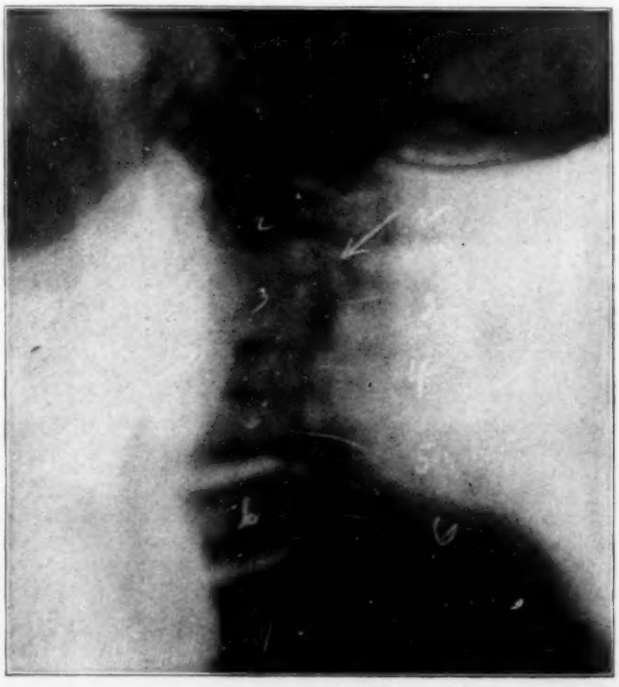

Fig. 5 (Case 4).—Fracture of body of third cervical vertebra, with posterior angulation of lower fragment and crush of body of fourth cervical vertebra.

tion. There was slight wasting of the small muscles of the left hand.

The notes taken at the New York Hospital show that at the time of examination the only neurologic findings referred to an increase in the deep reflexes in the right upper and lower extremities, and definite mention is made of the fact that no sensory disturbances were found. The sensations tested for were heat, cold and pain. My examination confirmed the negative neurologic findings found at the New York Hospital, with the slight exceptions noted.

This remarkable case of injury of a very severe nature to the third and fourth cervical vertebrae with crushing is of interest particularly because of the practically negative neurologic residuals. The cord itself probably escaped injury entirely, with the possible exception of a slight hemorrhage in the lower cervical segment, or an involvement of the roots on the left side. The slight sensory disturbances and atrophies on the left side would seem to point to this. The increase in the deep reflexes on the right side may have been due to pressure exerted by a slight pial hemorrhage around the lateral columns of the right side of the cervical cord, or of the left pyramid before the crossing in the medulla. There was undoubtedly also some pressure on the lower cervical roots, which explained the complaint of pain in the left upper extremity. The patient is working now and has practically no disability. The method of treatment employed by Dr. Hoag is illustrated in Figure 4.

COMMENT

These four cases gave a mortality of 25 per cent. with undoubted cord injuries. From the neurologic findings, the first case was probably a complete crush of the cervical cord, and resulted, as all of these cases do, in death within a few months after the injury. The other three cases were examples of partial involvement of the cervical cord, and all three of the patients recovered without operation.

A glance at the statistics mentioned by Elsberg and quoted above will show that if these patients had been operated on, especially by surgeons not trained in modern neurosurgical technic, the law of averages would have resulted in a probable mortality in these three cases of possibly two. The last patient no sane surgeon would have thought of operating on.

ANESTHESIA IN THE TREATMENT OF BOTULISM *

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AND
HARRY WEISS, A.M., PH.D.
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In the course of investigations designed to establish the path of absorption of botulinus toxin in guinea-pigs, a number of animals were kept under ether for the purpose of surgical manipulation. It was observed that death was greatly delayed in such animals following the introduction of large amounts of toxin. Thus, guinea-pigs of 350 gm. weight given 80,000 minimal lethal doses [1] of botulinus toxin intraperitoneally show symptoms of dyspnea in one hour and invariably die in about two hours, whereas guinea-pigs similarly injected but put under ether anesthesia for two hours as soon as dyspnea occurs (i. e., one hour after the injection of toxin) will survive for four hours. By prolonging the period of anesthesia, the life of the animals can be correspondingly prolonged.

The question at once arose whether advantage could be taken of this delay in the rate of the progress of botulinus intoxication under ether anesthesia to permit toxin-antitoxin combination to take place.

As described elsewhere,[2] a series of guinea-pigs was given 80,000 minimal lethal doses of toxin intraperitoneally, and in one hour when definite dyspnea was evident a sufficient quantity of homologous antitoxin was given intravenously to test its power to neutralize the toxin injected. The pigs died in from two and a half to three hours after the toxin injection in spite of the administration of antitoxin. Another series was given a similar dose of toxin, and antitoxin was injected after the same interval and in the same manner. At the time antitoxin was given, however, the guinea-pigs were anesthetized and kept under ether anesthesia for two hours. The series survived and appear normal after three months.

A subsequent experiment was planned to approximate more nearly the conditions in the cases of poisoning in human beings, that is, giving toxin by mouth. Two series of guinea-pigs were fed 50,000 minimal lethal doses of toxin. Guinea-pigs thus fed show dyspnea in about six hours and die in about twelve hours. After six hours the first series received antitoxin intravenously, while the second series was given antitoxin in a similar manner but put under ether anesthesia, which was continued for two hours. The pigs in the first series died in eighteen hours, while those in the second series survived.

This delay in fixation of toxin by the tissues under the influence of ether anesthesia suggests that etherization may even be of service while one is waiting for antitoxin, which is not always immediately available.

Incidentally, in addition to this direct effect of anesthesia on the progress of intoxication, attention is called to two other beneficial factors. The patient throughout the progress of botulism remains conscious of his condition and apprehensive of its significance. Anesthesia for a time relieves this mental distress. Moreover, as the amount of toxin ingested is unknown, it is advisable to give very large doses of antitoxin intravenously. Etherization is known to counteract the tendency to anaphylactic shock.

We recognize the difficulty of applying anesthesia by inhalation in advanced cases of botulism, but favorable action may possibly be accomplished by rectal or subcutaneous administration of ether in oil.[3] This and other methods are being tried on laboratory animals.

At the suggestion of our colleague Dr. C. K. Drinker, we have tried luminal sodium (sodium salt of phenyl-ethyl-malonyl urea) as an anesthetic for this purpose. Guinea-pigs were given 50,000 minimal lethal doses of botulinus toxin by the mouth; and after four hours, 100 mg. of luminal sodium per kilogram of body weight was injected subcutaneously in 5 per cent. solution. Ether was then administered for from five to ten minutes to hasten the onset of anesthesia. Antitoxin given twelve

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* This work is a part of the investigation of food poisoning, conducted under the direction of Dr. M. J. Rosenau, professor of preventive medicine and hygiene, Medical School of Harvard University. The investigations were made under the auspices of the Advisory Committee of the National Research Council on the Toxicity of Preserved Foods, and under a grant to Harvard University from the National Canners' Association.

1. The minimal lethal dose used throughout this paper is the smallest amount of toxin that is necessary to kill a 15 gm. mouse in less than four days after intraperitoneal injection.

2. Bronfenbrenner, Jacques, and Weiss, Harry: Proc. Soc. Exper. Biol. & Med., April, 1921.

3. Gwathmey, J. T.: Synergistic Colonic Anesthesia, J. A. M. A. **76**: 222 (Jan. 22) 1921; New York M. J. **110**: 96 (July 19) 1919.

hours after the administration of toxin protected the animal, while the control pigs not treated with luminal sodium died in spite of the administration of antitoxin.

We have been unable to obtain definite information as to the practicability of complete anesthesia with luminal in human therapy, nor could we find reference as to any untoward effect such procedure may have on the patient. However, the observations of W. L. Symes [4] are encouraging. He kept experimental animals under complete and continuous anesthesia by luminal (and under forced feeding) for two and three weeks without observing any change in the metabolism of these animals.

This paper is a preliminary communication in order that the facts may be available and the method applied in cases that may occur.

Further experiments are being carried out which attempt to gain an insight into the nature of the phenomenon, how far it can be applied with relation to other toxins, and the effect of other anesthetics. The quantitative and time relationships are also being studied.

INFLUENCE OF MENSTRUATION ON THE FOOD TOLERANCE IN DIABETES MELLITUS

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We are all likely to underestimate the influence of the emotions on the food tolerance in diabetes mellitus. This influence was aptly characterized in the remark of the late Dr. Theodore Janeway, that when the stock market went down the sugar in the urine of certain patients went up.

TABLE 1.—OBSERVATIONS IN CASE 1*

	Intake			Urine		
Date	Fat	Protein	Carbohydrate	Sugar	Acetone and Diacetic Acid	Comment
1/26/20	179	100	80	0	0	
2/15/20	179	100	80	0	0	
2/22/20	179	100	80	22.0	0	Menstruating
2/23/20	179	100	80	20.0	0	Menstruating
2/24/20	179	100	80	18.2	0	Menstruating
2/25/20	179	100	80	17.6	0	Menstruating
2/27/20	179	100	80	Trace	0	Menstruation over
2/28/20	179	100	80	0	0	
3/10/20	179	100	80	0	0	
3/17/20	179	100	80	0	0	
3/20/20	179	100	80	18.0	0	Menstruation started
3/21/20	179	100	80	16.5	0	Menstruating
3/22/20	179	100	80	17.0	0	Menstruating
3/23/20	179	100	80	15.0	0	Menstruating
3/24/20	179	100	80	12.8	0	Menstruating
3/25/20	179	100	80	Trace	0	Menstruating
3/27/20	179	100	80	0	0	Menstruation over
4/ 5/20	179	100	80	0	0	
4/12/20	179	100	80	0	0	
4/15/20	179	100	80	0	0	
4/16/20	7	10	15	0	0	Menstruating
4/17/20	22	24	15	0	0	Menstruating
4/18/20	19	43	15	+	+	Menstruating
4/19/20	31	48	17	+	+	Menstruating
4/20/20	50	50	20	0	0	Menstruation over
4/22/20	179	100	80	0	0	
4/30/20	179	100	80	0	0	

* The patient, a woman, aged 30, had been diabetic one year.

This paper contains certain studies on two cases of diabetes mellitus in which the patients lost all their food tolerance with the onset of their menstrual period. That menstruation is accompanied by many somatic and phychic symptoms in many women is well known. Its effect on the food tolerance in diabetes mellitus has been negleted.

Naunyn [1] thinks that menstruation has a tendency to increase glycosuria. He quotes Lecorche as stating that menstruation has a tendency to diminish glycosuria. Harrop and Mosenthal [2] have shown that menstruation in the diabetic they studied was accompanied by an increase in the acidosis and by an increase in the glycosuria. They also think that diabetic patients should be closely observed during the menstrual period. I agree with these observers and feel that diabetics showing a tendency to acidosis or glycosuria during their menstrual period should be placed on a starvation diet throughout their menstrual period.

TABLE 2.—OBSERVATIONS IN CASE 2*

	Intake			Urine		
Date	Fat	Protein	Carbohydrate	Sugar	Acetone and Diacetic Acid	Comment
5/ 2/20	174	90	75	0	0	
5/ 3/20	174	90	75	0	0	
5/ 4/20	174	90	75	12.0	0	Menstruating
5/ 5/20	174	90	75	11.5	0	Menstruating
5/ 6/20	174	90	75	12.5	0	Menstruating
5/ 7/20	174	90	75	7.2	0	Menstruating
5/ 8/20	174	90	75	Trace	0	Menstruating
5/ 9/20	174	90	75	0	0	Menstruation over
5/20/20	174	90	75	0	0	
5/27/20	174	90	75	0	0	
5/30/20	174	90	75	0	0	
5/31/20	174	90	75	14.5	0	Menstruating
6/ 1/20	174	90	75	15.0	0	Menstruating
6/ 2/20	174	90	75	12.6	0	Menstruating
6/ 3/20	174	90	75	11.5	0	Menstruating
6/ 4/20	174	90	75	Trace	0	Menstruating
6/ 5/20	174	90	75	0	0	Menstruation over
6/ 6/20	174	90	75	0	0	
6/20/20	174	90	75	0	0	
6/28/20	7	10	15	0	0	Menstruation started
6/29/20	7	10	15	0	0	Menstruating
6/30/20	7	10	15	0	0	Menstruating
7/ 1/20	22	24	15	0	0	Menstruating
7/ 2/20	40	40	30	+	+	Menstruating
7/ 3/20	174	90	75	+	+	Menstruation over
7/ 7/20	174	90	75	0	0	
7/15/20	174	90	75	0	0	

* The patient, a woman, aged 30, had been diabetic three months.

It may be seen by a study of the accompanying tables that on placing the patients on starvation diets, the glycosuria that previously developed during menstruation did not reappear. Patient 1 later during her menstrual period developed an acute acidosis and died. During this period she was on a diet that previously kept her sugar free and free of acidosis. This case resembles the one described by Harrop and Mosenthal.

It is well known that before or during menstruation there is present an increased function of the chromaffin tissue as shown by the facts that:

1. In the premenstrual period the glycosuric action of epinephrin is increased.
2. There occurs a swelling of the thyroid gland in the premenstrual period.
3. The suprarenal cortex increases in size.
4. The interstitial glands increase in size.
5. The pituitary gland increases in size.

On account of these facts I believe that the explanation of the loss of food tolerance in the two cases here described is due to some temporary alteration in the function of the gonads, either an increased secretion or a lack of correlation with other of the endocrine organs. It will be interesting to study the effect of various endocrine products in these cases.

120 West Seventieth Street.

4. Symes, W. L.: J. Physiol. **49**, No. 3, 1915.

1. Naunyn, B.: Der Diabetes Mellitus, Vienna, 1906, p. 235.
2. Harrop, G. A., Jr., and Mosenthal, H. O.: The Influence of Menstruation on Acidosis in Diabetes Mellitus, Bull. Johns Hopkins Hosp. **29**: 161 (July) 1918.

DIFFERENTIATION OF TYPE A AND TYPE B BOTULINUS TOXINS IN FOOD

A RAPID AND SIMPLE METHOD*

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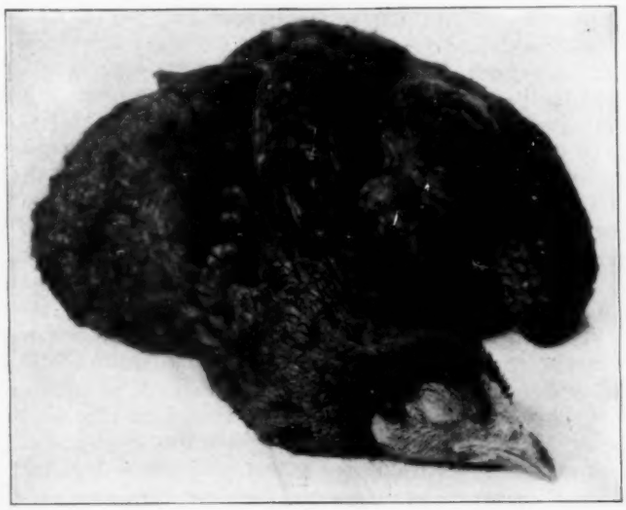
A provisional diagnosis of botulism in man and some of the lower animals is often made without difficulty, though the syndrome apparently does not permit a differential diagnosis of a Type A from a Type B intoxication. In recent outbreaks of botulism coming to our attention, information relative to the type of botulinus intoxication has been of extreme importance and desired at the earliest possible moment. Bacteriologic examination of the suspected food or toxin typing determinations with the aid of specific antiserums may be dispatched if laboratory facilities are available, and as ultimate and final procedures constitute an invaluable aid to the clinician. However, at best they are time consuming, while the rapidity and serious proportions of some outbreaks of botulinus intoxication demand immediate prophylactic and curative measures. Time, even a few hours, is a vital factor in some instances, and the recognized accurate time-consuming tests are of little or no immediate aid to the clinician.

The A and B types of botulinus toxins have never, so far as available records and experience indicate, been encountered together in a single sporadic outbreak affecting man or animals. The specific polyvalent A and B antitoxins are indicated in all outbreaks wherein the prevailing type of intoxication is unestablished, though monovalent antitoxin A or B is desirable in known types of the disease. In the use of polyvalent antitoxins, one or the other type is inert or inactive. This fact is not an important consideration except in grave cases wherein the amount of antitoxin to be employed is largely determined by the condition of the patient. In such instances it seems highly desirable to obtain the highest unit value in the least possible volume of antiserum. This is particularly true in intravenous administration. The specific monovalent antitoxin can obviously be employed to advantage in outbreaks if a knowledge of the type of the disease is at hand. It has been found that apparently reliable information of a differential character may be obtained by a rapid and simple method without undue delay. The procedure involves the direct exposure of chickens to the poisonous food.



Paralytic syndrome in fowl twenty-four hours after feeding 1 c.c. of suspected spinach liquor.

CHICKENS SUSCEPTIBLE TO B. BOTULINUS, TYPE A

Dickson of California has called attention to the fact that chickens are highly susceptible to botulinus toxin. Associated with a sporadic outbreak of human botulism, a paralytic syndrome in fowls was simultaneously observed following the consumption of a contaminated food that had produced illness in human beings. The results of experimental tests that we have conducted, wherein unfiltered toxic broth cultures of *B. botulinus*, Types A and B, were fed to separate groups of chickens, repeatedly suggest that these fowls are susceptible to Type A toxin, yet are highly refractory to Type B toxin. Furthermore, the result of bacteriologic studies of sporadic cases of so-called limber neck in poultry, unassociated with botulism in other species, suggest that *B. botulinus*, Type A, may be associated with avian botulism, exclusive of *B. botulinus*, Type B. In no instance have we encountered a Type B strain in avian botulism; and in repeated feeding exposure tests using different strains of *B. botulinus*, Type B, manifest symptoms of illness in chickens could not be induced. The toxigenicity of the Type B strains were established in guinea-pigs, wherein 0.000001 c.c. of some strains proved fatal to guinea-pigs of a given weight.

DIFFERENTIAL SUSCEPTIBILITY TEST

The practicability of employing chickens as a means of rapidly distinguishing between the Type A and Type B toxins in food has thus been suggested. In recent outbreaks of human botulism, the type of intoxication was sought in this method by us and accurately determined in less than twenty-four hours. From 1 to 5 c.c. of liquor from the suspected food was given to mature chickens, and from 25 to 50 gm. of the suspected food in solid form. Subsequent bacteriologic and immunologic tests verified the preliminary interpretation of the avian susceptibility tests.

Fortunately, chickens are available in practically every locality, and in sufficient numbers so that if the occasion demands varying amounts of the suspected food may be given to several birds. To expedite matters, the liquids or solids may be forced into the esophagi of the fowls, while they are restrained by an assistant. The positive value of the exposure test in chickens is limited to the recognition of Type A toxin which, if present, is manifest in a general paresis and coma in a few hours. If the birds remain healthy after receiving poisonous food, the intoxication may be a Type B, though this must be confirmed by bacteriologic and immunologic tests. Other possibilities would obviously not be eliminated in negative exposure results.

Occasionally the refuse of the kitchen, including the suspected food, has been discarded and specimens are not available. Careful inquiry in such instances might be made as to whether a general paresis may have occurred sporadically in the chickens, since it is com-

* From the Laboratory of Animal Pathology, Animal Husbandry Department, University of Illinois.

mon practice to feed garbage to fowls. Characteristic illness and death of exposed birds are highly suggestive and, so far as we are able to determine, constitute reliable evidence of a Type A botulinus intoxication.

GROWTH OF INFLUENZA BACILLI WITHOUT BLOOD *

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Influenza bacilli have been accepted generally as being hemoglobinophilic or hemophilic in spite of a great deal of work which has been done to show that they are not. Grassberger,[1] and Ghon and von Preyss [2] were unable to grow them on mediums containing hematin instead of hemoglobin except in symbiosis with other bacteria. Davis [3] considered hemoglobin essential for their growth. Fleming [4] offered proof which seriously interferes with the hemoglobinophilic claims for these bacilli by securing a growth on agar to which had been added a small amount of fluid obtained in treating blood with an equal quantity of normal sulphuric acid and then neutralizing it with normal sodium hydroxid. Fildes [5] considered two factors necessary for the growth of these organisms, both of which are in blood, but neither is hemoglobin in the form of hemoglobin. Thjotta and Avery [6] have found two substances essential. Both are in blood. One resists excessive heating, the other does not. The latter substance was found also in various bacteria and vegetables. Rivers and Poole [7] were able to grow influenza bacilli on 2 per cent. peptone water or agar to which were added an autoclaved extract of blood clot and a yeast extract sterilized through a Mandler filter. They concluded that two factors were necessary for the growth of these bacilli, one autoclave stable, the other autoclave labile.

As far as is known, no one, except possibly Thjotta and Avery, has been able to grow influenza bacilli in the total absence of blood. Even Neisser [8] and others who grew them on nutrient or meat-infusion agar in symbiosis with other bacteria, and Thjotta and Avery, who grew them on "blood-free broth" plus boiled slime from Friedländer's bacilli, have failed to show absolutely that they are not hemophilic, because enough of the heat-stable substance from blood might have been present in certain lots of meat extract and meat infusion to support growth when the heat-labile factor was furnished by symbiotic bacteria or their extracts. Thjotta and Avery did not state how their blood-free broth was made, and the foregoing statement does not apply to their work if they did not use meat extract or meat infusion in the preparation of their broth.

Since the autoclave-labile substance has been found in bacteria and vegetables, a search was made for the heat-stable factor outside blood. Egg, at the suggestion of Dr. John Howland, was used first. Fresh eggs without any evidence of embryos were always used. Egg infusion broth made as stated below has been found to support the growth of influenza bacilli for many generations. Into 250 c.c. of 2 per cent. peptone (Fairchild's) water, p_H 7.6, three eggs were stirred, boiled one minute, filtered through cotton, and autoclaved in 100 c.c. quantities for fifteen minutes under 15 pounds of pressure. When this came out of the autoclave there was a large amount of a fluffy precipitate present which was allowed to remain because, if it was filtered out, growth was not supported for many generations. To each hundred cubic centimeters of the autoclaved egg infusion broth were added from 10 to 20 c.c. of a filter-sterilized years extract, and this mixture was tubed in 10 c.c. quantities under sterile conditions. The medium was incubated forty-eight hours before it was used to be sure of its sterility. The first inoculation was made with a loop of influenza bacilli from a blood agar slant. Subsequent transplants were made daily with a pipet, 0.5 c.c. of the culture being carried over each time. A heavy growth was obtained for the first two or three generations, and then only a light one for eight, ten, and fifteen generations. The cultures were plated on blood agar frequently and were always found pure, yielding from 100 to 300 colonies from each loop. The culture is still being carried on in this medium. Several lots of egg infusion broth have been used in this work. The strain of *B. influenzae* with which these experiments have been made was isolated by the New York Board of Health and has been in this laboratory for a year. Its cultural characteristics are known, and it can be identified absolutely by a homologous immune serum.

Peptone was the only possible substance in this medium that might have contained blood derivatives. As most peptones are made from meat or blood, it was presumed that Fairchild's was no exception. As controls, however, 2 per cent. peptone water, 2 per cent. peptone water plus filter-sterilized yeast extract, and egg infusion broth autoclaved and filtered till absolutely clear plus filter-sterilized yeast extract were used, and with these mediums no growth of influenza bacilli was secured, or for only one or two transplants. Growth for as many generations as desired, even though it was a light one, was obtained only on the egg infusion broth made as described above, which contained a great deal of precipitate in the bottom of the tubes.

The precipitate is apparently one of the important factors in the medium. It is part of the egg not removed in boiling and filtering, and should take up at least half the space occupied by the whole medium. If a large coagulum is present when the flasks are removed from the autoclave, this should be broken up by shaking into a fluffy mass of small particles which settles to the bottom, leaving a practically clear supernatant fluid. It is not always easy to make the medium as desired, and sometimes several attempts are necessary before a satisfactory one is obtained.

If, as some [5] think, iron is one of the essential factors for the growth of influenza bacilli, it may be that the hematogen described by Bunge [9] in eggs furnishes the iron in the necessary form. The factors, however, essential for the growth of influenza bacilli have not been isolated in this laboratory. The study of these will have to be made by well trained chemists. It has been shown [7] that there are probably two factors necessary for these organisms. While both of these occur in

* From the Department of Pathology and Bacteriology, the Johns Hopkins University.

1. Grassberger, R.: Centralbl. f. Bakteriol. **23**: 353, 1898.
2. Ghon, A., and von Preyss, W.: Centralbl. f. Bakteriol., Orig. **32**: 90, 1902.
3. Davis, D. J.: J. Infect. Dis. **4**: 73, 1907.
4. Fleming, A.: Lancet **1**: 138 (Jan. 25) 1919.
5. Fildes, P.: Brit. J. Exper. Path. **2**: 16 (Feb.) 1921.
6. Thjotta, T., and Avery, O. T.: Proc. Soc. Exper. Biol. & Med. **18**: 197, 1921.
7. Rivers, T. M., and Poole, A. K.: Bull. Johns Hopkins Hosp., to be published.
8. Neisser, M.: Deutsch. med. Wchnschr. **29**: 462, 1903.
9. Bunge, G.: Ztschr. f. physiol. Chem. **9**: 49, 1885.

blood, they may be found in other substances, for example, the autoclave-stable factor in eggs, the autoclave-labile one in yeast. It seems that the hemophilic or hemoglobinophilic claims for influenza bacilli will be discontinued in the future.

NOTE.—Since this article was sent in for publication the author has been able to grow influenza bacilli in a medium which contained no peptone. The avoidance of peptone excludes the possibility of the introduction of blood derivatives from that source. The following is the composition of the medium which has been substituted for peptone water in this work:

	Gm. or C.c.
Glycerin	30
Sodium chlorid	5
Calcium chlorid	0.1
Magnesium sulphate	0.2
Dibasic postassium phosphate	2.0
Ammonium lactate	12.0
Asparagin	0 5
Tryptophan	2.5
Distilled water	1,000

Medium titrated to p_H 7.4 and autoclaved in 100 c.c. quantities. Eggs and yeast extract added as desired.

DIAPHRAGMATIC SPASMS IN ANIMALS PRODUCED WITH A STREPTOCOCCUS FROM EPIDEMIC HICCUP

PRELIMINARY REPORT *

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ROCHESTER, MINN.

The etiology of epidemic hiccup is obscure. Its occurrence at times in epidemic proportions suggests a microbic origin. Epidemiologic and clinical facts suggest that the cause of the condition is similar to the cause of epidemic encephalitis. Hiccup frequently occurs in cases of epidemic encephalitis. The two diseases occur simultaneously in many localities and over widespread areas of population.[1] Epidemic encephalitis has occurred in persons who have had recent attacks of uncontrollable hiccup, as well as after prolonged contact with patients with epidemic hiccup.[2]

Mindful of the extreme specificity of bacteria isolated from various foci of infection in other diseases I have studied, I thought that such areas might harbor the etiologic agent of epidemic hiccup. Three patients with prolonged uncontrollable hiccup have been studied from this standpoint. The material was obtained on the second day of a three day attack from the first patient; from the second, on the seventh day of a recurrence three weeks after an initial attack lasting ten days; from the third, on the fifth day of an attack of seven days' duration. These patients were well otherwise, and all recovered.

The tonsils appeared normal on inspection, but a considerable amount of pus was expressed from each, and a suspension of the pus obtained was made in 2 c.c. of salt solution. Washings from the nasopharynx, and suspensions of pus from pyorrhea pockets were also studied. From these suspensions blood-agar plate and glucose-brain broth cultures were made. Animals were inoculated directly with the suspensions in salt solution, and with the cultures in glucose-brain broth. From 0.2 to 0.01 c.c. of the salt solution suspension, and from 0.2 to 0.0001 c.c. of the culture in glucose-brain broth were injected intracerebrally into rabbits and monkeys.

After a period of incubation lasting from one to seven days, depending largely on the size of the dose and the virulence of the strain, a remarkable train of symptoms developed, in which rhythmic clonic spasms of the diaphragm were the striking feature (Fig. 1). The spasms of the diaphragm varied greatly in severity and duration. In some animals the spasms were mild and were noted for short periods at one or more intervals only, and recovery was the rule. In others they were intense, associated with hiccup, and continued with little interruption for many hours, often to the point of complete exhaustion of the animals. The spasms were temporarily controlled by the administration of ether; they were controlled for some hours by depressants of the respiratory center, such as heroin and morphin, and for short intervals by uniform, quite firm pressure around the abdomen at the level of the diaphragm. All the animals in which the spasms became marked died. Spasms of the diaphragm were produced in rabbits, monkeys, dogs and guinea-pigs.

The intracerebral injections were the most successful, although spasms of the diaphragm occurred followlowing intravenous and intratracheal injections, and following packing of the nose with gauze soaked in the cultures, and the introduction of the organism into teeth from which the pulp was removed. Control experiments with material from similar sources were negative.

The gross lesions found at necropsy were relatively slight. The spinal fluid was usually clear or only moderately turbid, and was increased in amount. The mononuclear cells usually predominated. The vessels of the meninges were congested. The pia over the base of the brain, pons, medulla, and more rarely over the cerebellum, was edematous and slightly cloudy. Usually no gross hemorrhages were found in brain or cord. Occasionally, circumscribed areas of hemorrhage and infiltration were found in the cortex, especially in the lower rolandic area, in the medulla, and in the cervical cord at the point of exit of the anterior roots of the upper cervical nerves. There was seldom any mark at the point of injection in the right frontal lobe. Suppurative meningitis was rare. No lesions were found in the phrenic nerves, and only occasionally hemorrhages in the diaphragm. The microscopic findings in the main consisted of circumscribed areas of hemorrhage, necrosis, and leukocytic and round cell infiltrations, usually surrounding blood vessels; the type of lesion varied according to the duration of the experiment, although round cell infiltration usually predominated, even in the experiments of short duration (Figs. 2, 3 and 4). The lesions were most marked in the basal ganglions, in the walls of the ventricles (Fig. 2), and in the gray matter of the cortex and medulla. Bacteria were easily demonstrable in the more acute lesions, but in the more chronic lesions they were fewer and could be found only after prolonged search. In animals that had recovered and were chloroformed, and in those that died late, it was often impossible to demonstrate the bacteria in the areas of round cell perivascular infiltration.

The organism isolated from the brain and spinal fluid of the animals that developed hiccup following injec-

* From the Division of Experimental Bacteriology, the Mayo Foundation.

1. Lhermitte, J.: Le hoquet épidémique; forme singultueuse de l'encéphalite épidémique, Presse méd. **28**: 916-919, 1920.

2. Netter, A.: Origine commune du hoquet épidémique et de l'encéphalite lethargique: relations chronologiques; successior de ces manifestations chez le meme sujet ou chez deux personnes en rapport entre elles, Bull. et mém. Soc. méd. d. hôp. de Paris **37**: 46-48, 1921. Rivet, L., and Lipschitz: Un cas de hoquet épidémique suivi d'encéphalite léthargique, Bull. et. mém. Soc. méd. d. hôp. de Paris **37**: 8-11, 1921.

tions of material from each of the three patients was a gram-positive, nonencapsulated diplococcus, which produced small, nonadherent greenish colonies on blood-agar plates, and short chains in liquid mediums. The freshly isolated cultures, especially those from the first patient, tended to produce, on lightly seeded plates, rather large, slightly elevated, often umbilicated, colonies. The growth in glucose-brain broth and ascites-glucose broth was rapid and diffuse. Diplococci predominated in the tissues (Fig. 5), although short chains of from two to four diplococci were found. In young aerobic cultures the organism was quite uniform in size and shape, resembling nonencapsulated pneumococci. In ascites tissue fluid it grew more slowly and varied greatly in size and shape, resembling the streptococcus from poliomyelitis. The strain from the second patient fermented inulin and was bile soluble; the strains from the other two did not ferment inulin and were not bile soluble. Cultures from the blood and other tissues were usually sterile or contained few bacteria as compared with the brain and cord. The freshly isolated strains from the first and third patients were agglutinated by an antistreptococcus serum prepared with a similar streptococcus isolated from a patient with lethargic encephalitis, but none were agglutinated by antihemolytic streptococcus serum, by the anti-

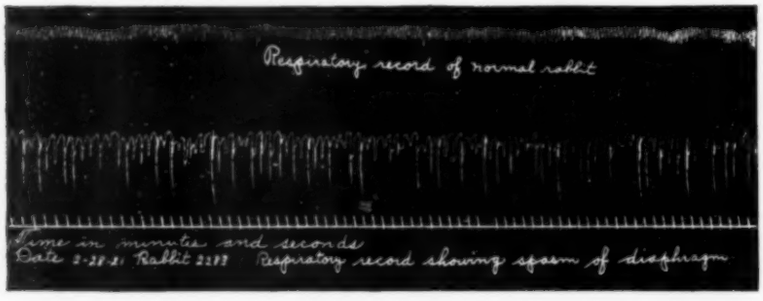
Respiratory record of normal rabbit
Time in minutes and seconds
Date 2-28-21 Rabbit 2283 Respiratory record showing spasm of diaphragm

Fig. 1.—Respiratory record of Rabbit 2283, showing spasms of the diaphragm, and respiratory record of a normal rabbit.

streptococcus serum prepared from one strain of the green-producing streptococcus found so commonly in influenza, or by the type pneumococcus serum.

Filtrates of the nasopharyngeal washings, of suspensions from the pus from tonsils and teeth of the patients, of emulsions of brain and cord from animals that died with typical symptoms, and of cultures which proved sterile by cultural methods, gave negative results following intracerebral inoculation.

Aerobic cultivation on blood-agar destroyed promptly the specificity of the strains, but by making frequent transfers into tall tubes of warmed glucose-brain broth, from four to six times in each twenty-four hours, specific agglutinating and infecting power was preserved for many generations. Thus, the strain from the first patient produced typical symptoms and lesions in a series of animals in the seventh, thirty-third, thirty-seventh and fiftieth culture generations, while in the seventy-third generation, suppurative meningitis developed instead.

The close relationship between epidemic hiccup and epidemic lethargic encephalitis, noted clinically, was suggested not only by the similarity of these strains to those I have isolated in encephalitis,[3] but also by the results in the animal experiments. It was noted that after several animal passages fewer animals developed hiccup, and a larger proportion developed lethargic and other symptoms of encephalitis.

3. Rosenow, E. C.: To be published.

PROTOCOLS ILLUSTRATING IN GENERAL THE RESULTS OBTAINED

EXPERIMENT 1.—Rabbit 2283, weighing 1,380 gm., was injected intracerebrally, Feb. 22, 1921, with 0.1 c.c. of the salt solution suspension of the pus expressed from the tonsil of the first patient studied. The rabbit appeared well until February 27, when it was unusually quiet, disinclined to move, and was somewhat shaky when made to hop around. February 28, at 8 a. m., it was found lying on its side, and having repeated sudden spasms of the diaphragm of varying intensity. The interval between the spasms varied from one to four seconds (Fig. 1). With each of the more severe spasms, audible hiccup and clonic spasms of the muscles of the extremities and, at times, of the neck occurred. When the animal was lifted to a new position, or was turned to the opposite side and attempted to get on its feet, more generalized clonic spasms occurred. After it became quiet, the spasms of the diaphragm recurred. For long intervals these spasms were unassociated with spasms of other muscles, although occasionally clonic spasms of the muscles of the extremities were noted. The animal was etherized at 5 p. m.

The cerebrospinal fluid was slightly turbid and increased in amount. The meninges were moderately congested; several areas of edema containing small, punctate hemorrhages over the left lower rolandic area, and small hemorrhages in the cervical cord opposite the anterior roots of the third and fourth cervical nerves on both sides were found. There were no lesions in the phrenic or vagus nerves, or in the diaphragm. Sections of the brain and medulla showed circumscribed, usually perivascular, areas of necrosis, and leukocytic and round cell infiltration.

The cultures from the brain and cerebrospinal fluid contained large numbers of colonies of slightly green-producing streptococcus; those from the liver contained a few, while those from the blood, kidney and spleen were negative.

EXPERIMENT 2.—Rabbit 2341, weighing 710 gm., was injected intracerebrally, March 8, 1921, with 0.0001 c.c. of a three hour culture of the organism isolated from Rabbit 2283 in the thirty-seventh culture generation. The animal remained well until March 12, when it was unusually quiet and disinclined to hop around. March 13, at 7 a. m., it sat about quietly, disinclined to move, and appeared uncomfortable; its fur was ruffled. At noon the animal was about the same, although it had become somewhat shaky and tremulous. At 2 p. m. it was found sitting in the cage, having repeated clonic spasms of the diaphragm, which it seemed to try to control by assuming various positions, such as stretching out its extremities and lying flat on its abdomen, and getting up and sitting in a humped position. At 4:30 p. m. it was found lying on its side in a relaxed condition, having repeated rhythmic sharp spasms of the diaphragm, in which audible hiccup occurred with the more severe spasms. At 5 p. m. it was found dead.

The cerebrospinal fluid was slightly turbid and increased in amount. There was no mark at the point of injection. The meninges were clear. A few small, punctate, subpial hemorrhages over the cortex in the lower half of the right rolandic area, and hemorrhagic edema in the cord opposite the roots of the third, fourth and fifth cervical nerves were found. There were no lesions in the phrenic or vagus nerves, or in the diaphragm. Sections of the brain and medulla showed circumscribed and perivascular round cell infiltration (Figs. 2 and 4).

The cultures from the brain and spinal fluid yielded a large number of colonies of green-producing streptococcus, and the blood yielded a few colonies.

EXPERIMENT 3.—Rabbit 2346, weighing 2,000 gm., was injected, March 10, 1921, intracerebrally with 1.5 c.c. of the filtrate of the brain emulsion of two monkeys that developed

hiccup following intracerebral inoculations with the strain from Rabbit 2283 after thirty-seven subcultures. The cultures in glucose-brain broth from this filtrate yielded the streptococcus.

The rabbit was well until the evening of the day after the injection, when it appeared drowsy, responded slowly to stimuli, and rested its nose on the floor of the cage, in apparent sleep. At 10 p. m. the drowsiness and tardy response to stimuli had increased. Respirations were slow, and the ears were held erect. March 12, at 7:30 a. m., the animal was found sitting quietly in the cage, apparently sound asleep. It was aroused with difficulty, but when thoroughly aroused it hopped around, but went directly back into apparent deep sleep.

At noon the animal was about the same, and could be placed in different positions with little or no resistance. It was photographed, apparently asleep, in a sitting position, lying on its side, and on its back with the extremities extended in the air. While being photographed it awakened sufficiently to lick its paws, and wash its nose and mouth, which were wet from saliva. It refused to eat carrot which was held to its mouth, but if pieces of carrot were placed in its mouth it masticated slowly for a short time and then apparently forgot to swallow, and the pieces, partially masticated, were held in its mouth for a long time. The respirations were slow. There were occasional twitchings of the eyelids, but no other spasms. The tonus of the muscles of the extremities was not noticeably increased. At 3 p. m. the condition of the animal was quite unchanged. It responded slowly to stimuli, and when awakened it lifted its head, opened its eyes, and then again promptly fell asleep. After considerable effort it was aroused sufficiently to drink water and eat oats. It stopped eating and drinking repeatedly, apparently falling asleep, and when prodded it would again eat and drink. At 9 p. m. the animal was found in exactly the same position in which it was left in the afternoon, apparently sound asleep, with slow respirations, ears erect, and eyes half closed. At this time it ate with apparent relish several mouthfuls of ground carrot, but goading was necessary, as it would repeatedly stop, apparently

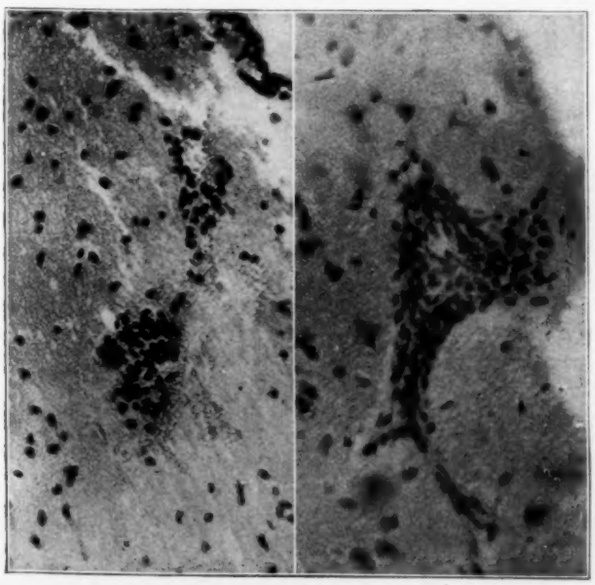

Fig. 2.—Circumscribed and perivascular round cell infiltration in brain of rabbit 2341 near the right lateral ventricle; hematoxylin and eosin (× 200).

Fig. 3.—Perivascular round cell infiltration in brain of Rabbit 2346; hematoxylin and eosin (× 200).

forgetting to swallow. A curious phenomenon was noted at this time. If the carrot was brought to the animal's mouth from the left side it paid no attention, but if brought from the right side it would eat. This was associated with a slow turning of the head to the right, even to the point of losing its balance. March 13, at 7:30 a. m., it was found sitting quietly in the cage, apparently sound asleep. With some effort it could be aroused sufficiently to eat ground carrot, but it repeatedly fell asleep and more quickly than the previous day. Repeatedly during the day it was found in apparent deep sleep; with considerable effort and prodding it could be awakened sufficiently to eat ground carrot, but it was apparently unable to open its mouth sufficiently to bite the carrot because of rigidity of the muscles of the jaw.

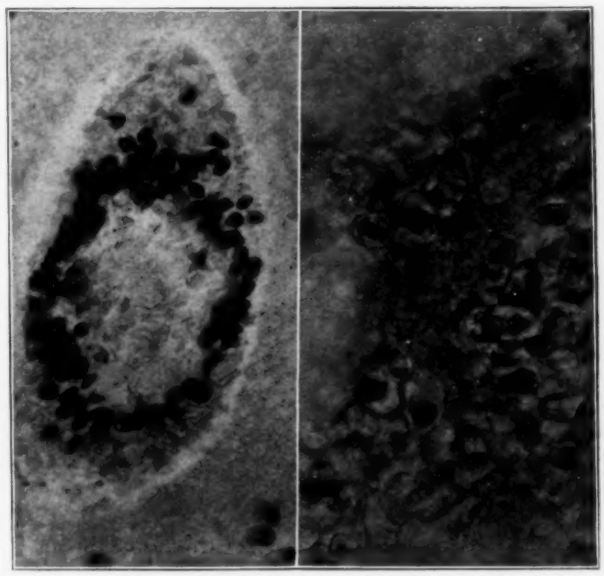

Fig. 4.—Adventitial round cell infiltration and perivascular hemorrhage in the base of the brain of Rabbit 2341; hematoxylin and eosin (× 500).

Fig. 5.—Diplococci in the area of perivascular hemorrhage shown in Figure 4; Gram-Weigert (× 1,000).

March 14, the animal was undoubtedly brighter. It took more notice of its surroundings, responded more quickly to stimuli, appeared hungry, and ate oats and ground carrot with a relish. Tremor of the muscles of the neck, and moderate ataxia became apparent as the animal hopped around. While eating, it still frequently forgot to masticate and swallow, and apparently fell asleep; but, when aroused, it would again eat. March 15, it was still quite sleepy, and distinct tremor of the head, repeated twitchings of the muscles of the upper part of the abdomen on the left side, and distinct ataxia were noted. It tended to lose its balance in reaching for the carrot on the side. During the following four days the animal apparently recovered completely and was chloroformed.

No gross lesions were found. The cerebrospinal fluid was increased in amount, but it was clear. Cultures from the brain, blood and spinal fluid were negative. Sections showed perivascular round cell infiltration in the base of the brain (Fig. 3), but no lesions in the cord.

Diagnosis But Not Treatment the Fad.—With the disappearance of the general practitioner, there seems to be growing up a passion for diagnosis to the exclusion of medical care and treatment, save in those conditions for which specific remedies have been discovered. General medical care, the use of simple remedies, applications and devices which may mean so much to a suffering patient, are seemingly beneath the notice of the newer physicians. In other words, the doctor in the old meaning of the term is leaving the field which is being increasingly occupied by an army of quacks and charlatans under various meaningless titles; for the people will seek health and relief from pain and suffering, and if it is not forthcoming from sources which should produce it, they will inevitably fall into the hands of these ignorant and lying promisers who year by year bombard the legislature for recognition, and not securing it, continue to ply their trade with little let or hindrance.—M. Nicoll, Jr., *Health News* **15**:306 (Dec.) 1920.

Clinical Notes, Suggestions, and New Instruments

REPORT OF A CASE OF AMNIOTIC HERNIA

MAX THOREK, M.D., CHICAGO

Amniotic hernia is so rare in its occurrence that it behooves us to report every case that falls under our observation, with complete description of the findings, either clinical, operative or postmortem.

Infant with amniotic hernia.

The prognosis is obviously grave. With a fair development of the abdominal walls, with which we may reasonably hope to close the defect, immediate operation is indicated. After the distention of the bowels by food, and drying of the delicate membrane covering the hernia, operation may be indicated, but is necessarily less likely to be successful.

REPORT OF CASE

Mrs. F. W., aged 26, American, housewife, admitted, Jan. 3, 1921, a primipara, with no history of miscarriages, began to menstruate at 14. The flow lasted four days; it was regular, with a moderate amount of pain. The mother was in good health; the father was dead, the cause of death not known; one brother and two sisters were healthy. The husband was in good health. The patient was referred by Dr. P. Matthei.

Delivery of a boy occurred, Jan. 5, 1921. Position was left occipito-anterior, and labor was normal. The child, which weighed 8 pounds at birth, was of apparently normal development with the exception of a large hernial protrusion from the umbilical region. The covering of the hernia was sufficiently transparent to permit inspection of the contents, and consisted of amnion, Wharton's jelly and peritoneum. The accompanying illustration shows the hernial mass retracted upward and laterally. The infant died on the day following birth.

Necropsy was performed twelve hours after death, by Dr. Meta Franke.

The body weighed 8 pounds and was 50 cm. long. The skin was cyanotic. The sexual organs were normal. From the anterior abdominal wall arose a hernial sac 19 cm. in the longitudinal axis, 11 cm. in the transverse and 12 cm. in the anteroposterior diameter. The normal skin extended up on the wall of the sac from 1 to 2 cm. The remainder of the surface of the sac was covered by a yellowish, glistening membrane. Intestinal coils and dense structures suggesting liver could be seen through the walls of the sac. The opening into the hernia from the abdomen extended from the apex of the ensiform cartilage to a short distance below the umbilicus. The stump of the cord was given off 6 cm. from the margin of the umbilical ring on the lower surface of the hernia. The wall of the sac was separated by an abundance of fluid (Wharton's jelly). The thorax and abdomen were long and narrow. With the removal of the anterior abdominal wall and the hernial sac, the latter was seen to contain the pyloric half of the stomach, the greater portion of the small intestine, the ascending, transverse and descending colon, the spleen and the entire liver. Meckel's diverticulum and the vermiform appendix were easily found. The intestine and other structures were adherent by plastic exudate, which was easily broken. The diaphragm was pulled downward and forward. The umbilical vein ran along the wall of the hernial sac anteriorly from the umbilicus to the liver. The kidneys and suprarenals were normal in size and location. The gastrointestinal tract, spleen, liver and pancreas were normally developed and bore their normal relationship to one another, but were displaced anteriorly by the influence of the hernia. It was not possible to replace the organs in the abdominal cavity, which was very narrow and seemed short by reason of the downward displacement of the diaphragm. The abdominal muscles were well developed, but were separated in the median line for a distance of 15 cm.

CONCLUSION

Amniotic hernia is due to adhesion between the amnion and the embryonic gut which prevents the recession of the intestine into the body cavity at the proper time.

30 North Michigan Avenue.

CASE OF DERODIDYMUS (DICEPHALUS)

W. M. BEACH, M.D., SHELTON, WASH.

Derodidymus is the term applied to a monster having two heads, two necks, a single body, and usually two lower and two upper extremities, although there may be additional members, more or less rudimentary in development.

One of the first cases of derodidymus reported was by Peu in 1674. Two midwives having failed to effect delivery, he performed version and delivered the child.

Fig. 1.—Appearance of derodidymus.

Boerstler's case occurred in 1882. The woman was a nonipara.[1] Delivery was accomplished without great difficulty, because the smaller head was resting on the neck and cheek, up to the malar bone, of the larger one. A third limb arose from the dorsum of the ilium. This monster survived five weeks. One head would nurse while the other was crying or

1. This specimen is in the Mutter Museum of Jefferson Medical College, Philadelphia.

sleeping. The third lower limb in this case really consisted of two united limbs.

Moore reported a case of a dicephalous monster causing distocia, a head descending. He applied forceps, but failed to deliver. Then recognizing that the difficulty was due to a

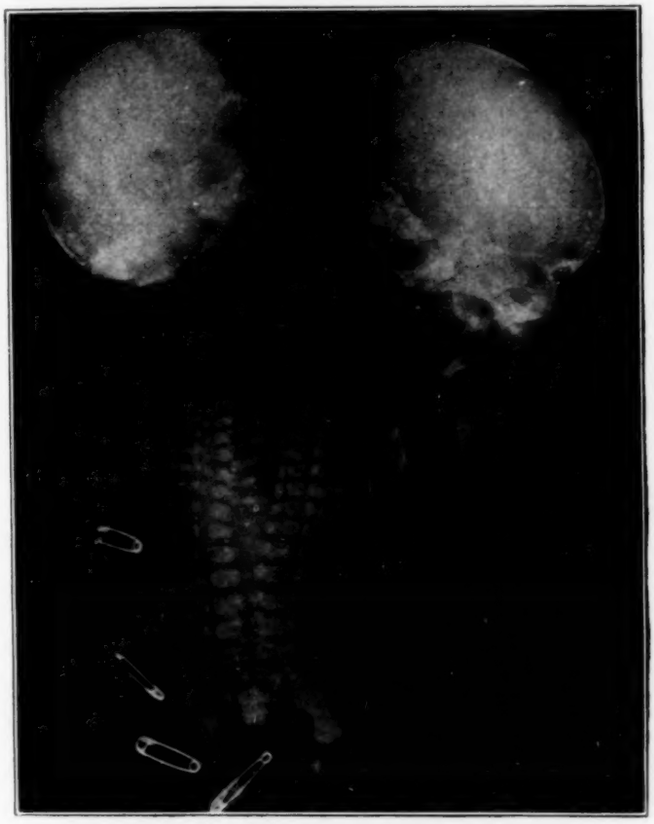

Fig. 2.—The two vertebral columns joining in the sacrum. What felt like a normal spinal column was the enlargement caused by the joining of the ribs.

second head, he performed version and effected delivery. The monster was 19½ inches long and weighed 8¾ pounds. King[2] reported a case of dicephalus in a primipara who had been in labor two days. One of the heads presented, but attempts to deliver with Simpson's axis-traction forceps having failed, the presenting head was removed and delivery effected by podalic version and extraction. This monster was 19 inches long and weighed 12 pounds. The mother died three hours after delivery.

Playfair and Veit each report two cases, in which decapitation was done, and then version.

REPORT OF AUTHOR'S CASE

My patient, a quintipara, was 29 years of age. Her children are all living. Labors were normal. When I was called to attend her the membranes had ruptured. Examination revealed a breech presentation—right buttocks, with the right leg flexed, the plantar surface of the right foot resting on the buttock. When sufficient dilation of the os had occurred, both feet were brought down and delivery was attempted, without avail. Bimanual examination disclosed the presence of two heads, which I regarded as locked twins. I endeavored to free the heads by manipulation, and felt that I had succeeded. Under complete chloroform anesthesia, I made traction, and after about three quarters of an hour of manipulating the child was delivered. It weighed 9 pounds, and was 20 inches long and 8½ inches across the shoulders. It was a well nourished and perfectly formed male child, with two heads, both of the same size—14½ inches in circumference. The main difficulty in the delivery of this monster was bringing down the first shoulder, which was followed by the heads. The left shoulder was delivered last by Playfair's method. The mother made an uneventful recovery. There were no lacerations.

Examination of this infant showed what apparently was a normal spinal column enlarged at about the seventh cervical vertebra and then becoming bifid. The roentgenogram shows two vertebral columns joining the one sacrum, and what seemed to be the central vertebral column is the enlargement caused by the joining of the ribs arising from the inner side of each true vertebral column. The supposed seventh cervical vertebra was the junction of the two inner clavicles, the one from the left being the only one to show in the roentgenogram.

This, I believe, is the only case of dicephalus on record that has been roentgenographed. Necropsy was refused.

2. King: Tr. Edinburgh Obst. Soc.

SPLINTERS OF GLASS IN THE FACE AND SKULL REVEALED BY THE ROENTGEN RAY

REPORT OF TWO CASES *

CHARLES G. SUTHERLAND, M.B. (TOR.), ROCHESTER, MINN.
Assistant in Roentgenology

CASE 1 (352100).—Mr. P. A., aged 45, a vaudeville artist, came to the clinic complaining of a chronic inflammatory condition of the right side of the face, difficulty in opening the mouth, and pain on movement of the jaw. About four weeks before, after a long period of intermittent hot applications, a discharge of bloody pus appeared at a point 2 cm. above and just anterior to the external ear. The patient could feel a sharp point in the opening. He had been in an automobile accident thirteen months before and was thrown against the windshield, his head passing through the glass. When he was freed from his position, wounds on the right and left sides of the face were bleeding profusely. He was taken to an emergency hospital where sixteen stitches were required to close a wound in the right external ear just posterior to the tragus. The

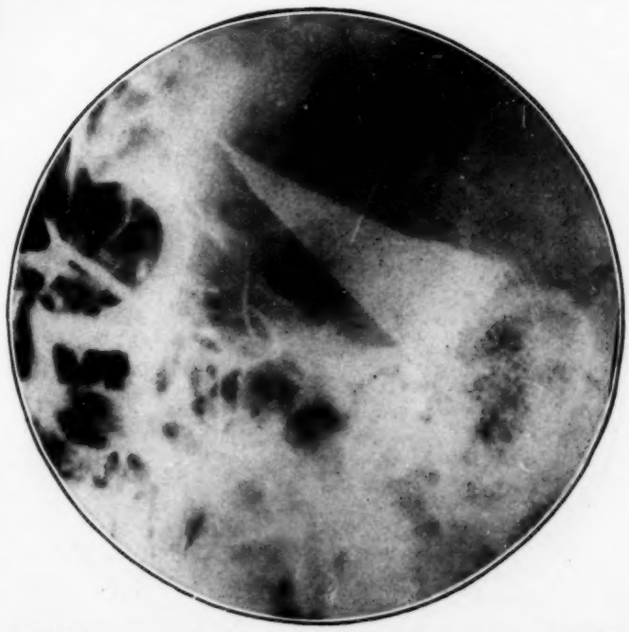

Fig. 1 (Case 1).—Glass splinter lying in the soft tissues under the skin.

wound healed by first intention and the stitches were removed by a physician in another city who examined the patient and made a diagnosis of fracture of the bones of the face. Five weeks later he commenced to have severe pain, some swelling of the tissues of the face, and difficulty in opening the mouth. He suffered almost continuously thereafter and consulted physicians in various cities, all of whom diagnosed fracture

* From the Section of Roentgenology, Mayo Clinic.

of the bones of the face or skull; but none had roentgen examinations made. He was forced to cancel several vaudeville engagements because of disability from pain and swelling of the face.

Examination at the clinic revealed a discharging sinus above and just anterior to the right external ear; a sharp corner of

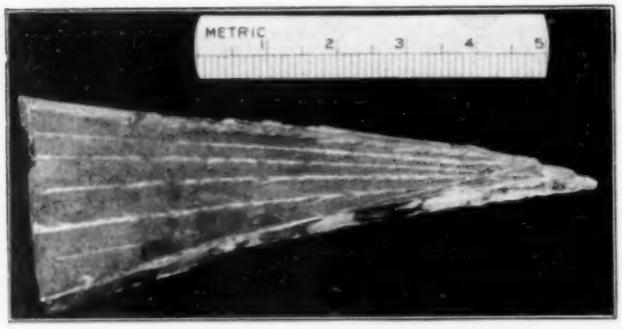

Fig. 2 (Case 1).—Specimen of glass after removal.

what was taken to be glass protruded from the mouth of the sinus.

The roentgenogram (Fig. 1) revealed a triangular, opaque shadow 8 cm. along the sides and 3.5 cm. across the base, the base running from the glenoid fossa upward and backward parallel with the outline of the pinna, and the apex reaching to a point 1 cm. above and 0.5 cm. behind the external angular process of the eye.

The patient was admitted to hospital and the glass removed under local anesthesia. The glass was 4 mm. thick (Fig. 2). Complete relief followed.

CASE 2 (248010).—Mr. G. G., had been in an automobile collision one month before coming to the clinic. A splinter of glass had been driven through the skull. The fragment entered at the inner margin of the right orbit, and apparently passed through the middle line and lodged against the occipital bone. Splinters of glass were removed from the right eye on the

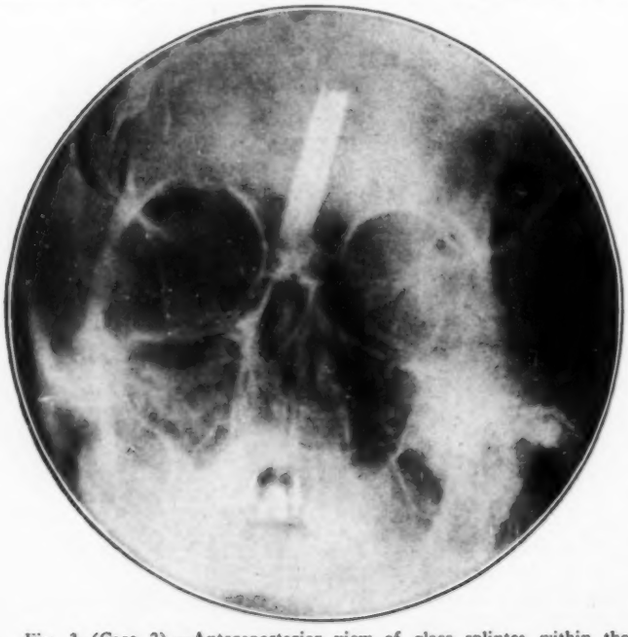

Fig. 3 (Case 2).—Anteroposterior view of glass splinter within the skull.

eleventh day after the accident, and from the right cheek on the thirteenth day. At about this time an unsuccessful attempt was made to locate and remove the fragment of glass in the brain. The patient was brought to the clinic in a semicomatose state, with a moderate degree of paralysis of the right arm and leg, ptosis of the right eye, impairment of vision and disturbance of motion. Roentgenograms (Figs. 3 and 4) revealed a splinter of glass in the posterior portion of the skull, which in the anteroposterior view appeared to be in the middle line.

The patient's condition was such that further surgical interference offered no prospect of improvement, and he was taken to his home. Word was received of his death within a fortnight.

COMMENT

I have been unable to find any reference in the literature to the detection by the roentgen ray of glass in the tissues. Failure to demonstrate small bits of glass supposedly or actually embedded in the tissues is a common experience of roentgenologists, and success in these two cases was probably

Fig. 4 (Case 2).—Lateral view of glass splinter within the skull.

due to the thickness of the fragments. In any event, it is evident that the roentgenologic search for embedded glass is not always hopeless.

REPORT OF A CASE OF RUPTURE OF AN AORTIC ANEURYSM INTO THE SUPERIOR VENA CAVA

M. S. WIEN, M.D., AND W. C. EARLE, M.D., CHICAGO

History.—J. P., a white man, aged 52, single, laborer, of Irish descent, entered Cook County Hospital in the service of Dr. Joseph A. Capps, Dec. 8, 1920. His complaints were shortness of breath, marked swelling and cyanosis of his face and upper part of his body, and cough. The history, obtained from the patient, revealed that he had been well and strong and a hard laborer until about five and one-half weeks before entrance. At that time he gradually noticed over a period of ten days that he was a little short of breath and that his face and hands became a little blue on exertion; but there was no swelling. He went to bed one night, after a hard day's work, apparently in good health; but on arising the next morning he noticed marked shortness of breath, swelling and blueness of his face and upper portion of his body, and some discomfort in his chest. He was able to be up and about, but was unable to work. Exercise and lying down made the swelling worse, and sleep was difficult to obtain. The condition had been practically stationary since the onset. Attacks of dizziness and headaches, and cough, although present, had not been troublesome. The patient had been quite deaf for the last twenty years. He had never noticed any pain in the chest, palpitation of the heart, or swelling of the feet. There had been no difficulty in swallowing. The appetite was good. The patient had been a heavy drinker, and stated that he had a chancre fifteen years before. The history was otherwise negative.

Examination.—The patient was only fairly well developed; the great size of his head and the fulness of his face, neck and chest were out of all proportion to that of the lower part of his body (Fig. 1). The patient was very drowsy, but was easily aroused. Speech was difficult and thick; respirations

were noisy and of the Cheyne-Stokes type. The temperature on admission was 97, pulse 80, and respiration, 20. The blood pressure was: right arm: systolic, 126; diastolic, 40; left arm: systolic, 116; diastolic, 40, giving a difference of 10 mm. of mercury in the two pulse pressures. The skin of the upper portion of the body, including the face and arms, was bluish red, and there was marked edema of the subcutaneous tissues, almost closing the eyes. There was marked bulging of the neck, especially in the submaxillary region. The lips and mucous membrane of the mouth were cyanotic, and there was considerable edema of the pharyngeal wall. The edema and discoloration extended down over the chest, arms and hands, and there was pitting on pressure. It decreased as one passed downward, and was sharply marked off at the lower margin of the chest from the abdominal wall, which was very thin and devoid of fat. At this border there was a purple band about 4 inches wide, extending from one axilla to the other, made up of a network of small dilated veins. Extending downward from this region over the abdomen to the inguinal regions there were numerous markedly dilated veins, the blood flow in which was apparently downward to the groins. Numerous dilated veins were visible in the edematous skin extending upward. The right external jugular vein was prominent, and showed a pulsation synchronous with the cardiac systole. In no other veins could pulsation be seen. There was no edema of the lower extremities and no free fluid in the abdominal cavity. The liver and spleen were not palpable. The pupils were equal, regular and reacted to light and accommodation. The chest was symmetrical, and expansion was fair and equal. Resonance was normal throughout, and only a few coarse, moist râles could be heard over the left lower lung posteriorly.

Examination of the heart revealed the apex impulse in the sixth interspace 2 cm. to the left of the nipple line. The right heart border was 2 cm. to the right of the sternum, and the left heart border at the anterior axillary line. There was visible pulsation over the left border of the sternum at the costosternal junctions, and the mediastinal dulness was increased 3 cm. to the right in the first interspace and 4 cm. to the left in the first and second interspaces. The first sound of the heart was quite strong and distinct, and the second aortic sound was faint and muffled. A systolic murmur was heard over the sternum as far out as the right nipple line, loudest at the junction of the third and fourth ribs with the left border of the sternum, where it was of a loud, whirring character similar to that on the stroke of a water pump. It was loudest at the beginning of systole, fading gradually out and extending through diastole to the next systole. Over a small area over the left border of the sternum at the fourth interspace, a short diastolic murmur was heard.

There was a four plus Wassermann reaction. The red blood count was 3,680,000; the white blood count, 6,600; hemoglobin, 75 per cent.; color index, 1. The urine showed a trace of albumin, but no casts. Fluoroscopic and roentgenographic examination of the chest revealed an aorta that was dilated from three to five times its normal diameter, but no definite aneurysmal dilatation, and a very large heart mostly right auricle.

A clinical diagnosis of aortic regurgitation, aneurysm of the aorta and obstruction to the superior vena cava was made, the obstruction probably being due to rupture of the aneurysm into the superior vena cava.

Clinical Course.—The patient was permitted to be up and about, as he was most comfortable when sitting up, and after a night sitting up in a chair, the swelling of his face would decrease considerably. He was unable to lie down for any length of time, and his nights were generally very stormy. The course of the case was rather uneventful except for an occasional mild delirium, during which time the patient had to be watched. There was little that could be done for him, and he had no serious complaints. He frequently expressed the desire to go out and work. Signs of fluid in the right chest developed two weeks after entrance, and a thoracentesis revealed a straw colored clear fluid with a specific gravity of 1.010. Finally the patient became despondent at no signs of improvement and he became more irrational, and restraint was often necessary at night. He was up and about on the day before his death, which took place suddenly at 2:15 a. m., Jan. 17, 1921, six weeks after admittance to the hospital and eleven weeks after the onset of the symptoms.

Necropsy (performed by Dr. Fred Stangl).—The subcutaneous tissues of the upper portion of the body and face were markedly edematous. The vessels in the skin were enlarged and engorged with blood above the lower costal margin. When the chest was opened, the cardiac and aortic areas in front were found to be markedly widened, so that the greatest width at the apex was 18 cm. for the heart, and 12 cm. for the aorta. The pericardial sac contained a slight excess of clear fluid, and its surfaces were smooth. The right auricle rested closely against the diaphragm below and had for its upper margin a greatly dilated aneurysmal sac, which was 14 cm. in its vertical diameter, 10 cm. transversely

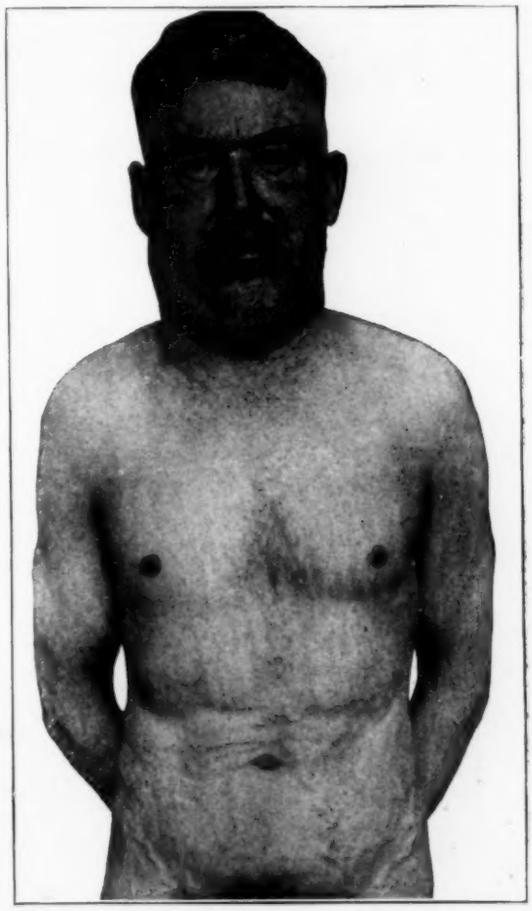

Fig. 1.—Appearance of patient, in whom were noted edema, disproportion between face, neck, chest and the rest of the body, and the presence of varices on the abdominal wall.

and 10 cm. anteroposteriorly. The coronary veins and sinus and the azygos vein were engorged and distended with blood. The superior vena cava was markedly compressed, beginning at the right auricle and extending up for 10 cm.; and in this area its walls were thin and adherent to that of the aneurysmal sac. Its greatest circumference was 6 cm., whereas that of the inferior vena cava was 9 cm. In this narrow portion and about 4 cm. from the opening into the right auricle there was an oval opening about 5 mm. in diameter between the superior vena cava and the aneurysmal sac (Fig. 2). Its margins were covered with grayish pink fibrin masses. The lining of the aorta was rough, and the thoracic portion was covered with yellow to gray plaques, surrounding which were numerous linear and puckered scars. The elasticity was greatly decreased, and the greatest circumference was 8 cm. The beginning of the aorta from the aortic valve to the transverse arch was involved in an aneurysmal sac whose wall was thinned to from 1 to 2 mm. The cavity of the sac

readily admitted a gloved fist and communicated with the left ventricle below, with the transverse arch in its right upper portion and with the superior vena cava through its posterior wall. Its diameter was from 10 to 12 cm. in all directions. The wall of the left ventricle was 19 mm. thick, and that of the right, 4 mm. The empty heart and aorta weighed 725 gm. Fluid flowed freely from the pleural cavities. The right lung was collapsed and airless, with marked compression atelectasis. The left lung crepitated throughout, but was boggy in its lower portions. The examination was otherwise negative.

COMMENT

The diagnosis was suggested soon after the history and a few essential points in the examination of the patient were determined. As previously reported by Pepper and Griffith,[1] and epitomized by them, the diagnosis is based on the evidence obtained from the patient's history, in conjunction with the physical signs revealing aneurysm and indicating obstruction to the circulation of blood in the superior vena cava. The laboratory tests for syphilis and the roentgen-ray evi-

Fig. 2.—Perforation, as viewed from the vena cava.

dence of aortic aneurysm are valuable aids in making the correct diagnosis. Significant in the history is the sudden onset of distressing symptoms associated with the rupture of the aneurysm, followed by the signs of obstruction to the flow of blood in the vena cava. In this case, although there was practically complete obstruction to the vena cava there were no pressure symptoms due to obstruction of the trachea, bronchi or esophagus. The murmur heard extended through the entire cardiac cycle, being continuous, as is the case in those murmurs resulting from communication of an artery with a vein. The pulsation of the external jugular was also an important diagnostic point in this case. The onset in many of the cases reported has been during exercise or some physical exertion; but in this case the condition apparently developed during the patient's sleep and without much respiratory and cardiac disturbance. The case is reported to place on record another case of this type, since the condition is comparatively rare.

3708 Lexington Street.

1. Pepper and Griffith: Tr. Assn. Am. Phys. **5**, 1890.

RHINOPLASTY TO REPLACE A NOSE BITTEN OFF BY A RAT

MOSES BEHREND, M.D., PHILADELPHIA

Recently there have appeared at intervals reports of cases in which rats have inflicted serious injuries on persons, some of whom have died from infection following the injury, while others who survived have been disfigured for life. The case

A *B* *C*

Fig. 1.—*A*, appearance of child before operation; *B*, *C*, flap taken from forehead, turned and sutured to freshened surface of nose.

here reported is interesting on account of the destruction of nearly half of the patient's nose and its restoration by means of several plastic operations.

A *B* *C*

Fig. 2.—*A*, redundant flap separated and replaced on forehead; *B*, *C*, result; hump at tip of nose.

REPORT OF CASE

J. L., a boy, aged 7 months, was admitted to the Mount Sinai Hospital, Dec. 18, 1917. On account of the death of his mother, three months before admission, the baby had been

A *B* *C*

Fig. 3.—*A*, *B*, result of third operation; *C*, present appearance of patient.

neglected. On the day of the accident, neighbors, attracted by his cries, found a rat gnawing at his face. When first seen he presented a pitiable sight. There was a complete absence of a part of his nose, as well as numerous lacerations and scratch marks on both cheeks due to the clawing of the rat (Fig. 1 *A*).

The first operation was performed, December 21. The Indian method was used, a flap being taken from the forehead,

turned and then sewed to the freshened surface of the nose. Figures 1 *B* and 1 *C* illustrate the full face views of the flap.

The second operation was performed, Jan. 24, 1918, when the redundant flap was separated and replaced on the forehead (Fig. 2 *A*).

Figures 2 *B* and 2 *C* show the result in different positions, with a rather marked "hump" at the tip of the nose.

We decided to perform another operation to remove this "hump," but the general condition of the child was so poor that we decided that a transfusion of blood was necessary. Accordingly this was performed by Dr. Harry Lowenberg through the anterior fontanel, after which there was marked improvement.

The third operation was not performed until June 19, because the general condition of the child did not warrant it. A wedge-shaped piece was then removed. The result is shown in Figures 3 *A* and 3 *B*.

The child is now 4 years old. Figure 3 *C* illustrates the condition of the nose at present. The scar on the forehead is becoming less prominent.

1427 North Broad Street.

A METHOD FOR OBTAINING STABLE SUSPENSIONS OF STREPTOCOCCI FOR AGGLUTINATION *

JOHN F. NORTON, PH.D., CHICAGO

The agglutination reaction has not been successfully utilized for the classification of organisms belonging to the *Streptococcus viridans* group. One of the factors which has prevented the application of this reaction—so important in connection with the differentiation of many bacterial species—is the tendency for suspensions to agglutinate spontaneously. The method described overcomes this difficulty, while at the same time giving no interference with serum agglutination.

The organisms are grown in veal infusion broth (1 per cent. bacteriologic peptone, 0.5 per cent. salt) of reaction p_H 7.6, to which is added, before sterilization, 2 per cent of dextrin. Just before inoculating the tubes, 3 drops of ascitic fluid water (1 part of ascitic fluid to 3 parts of distilled water, sterilized for three successive days in the Arnold sterilizer) are added aseptically to each tube. The broth tubes are inoculated from a twenty-four hour blood agar slant. After from eighteen to twenty-four hours' incubation the broth culture is filtered through cotton to remove any large clumps. The filters are easily made by drawing out a culture tube, inserting cotton in the funnel shaped constriction, plugging and sterilizing.

In making the various dilutions of immune serum for the agglutination test, as well as for diluting the suspension in case it is too heavy, 1 per cent. dextrin broth is used in place of the usual physiologic sodium chlorid solution. The mixture of diluted serum and suspension is incubated at 37 C. for one and a half hours before a reading is made. The tubes may be allowed to stand over night in the icebox after incubation, but no difference in final reading has been obtained by this procedure. The bacterial suspension controls are stable for at least twenty-four hours, as are also normal serum controls.

The problem of obtaining a stable suspension was one, first, of preventing the precipitation of a bacterial colloid and, secondly, of so adjusting the quantity of protective colloid used that there would be no interference with the action of the bacterial agglutinins. Dextrin has proved to be a satisfactory substance for this purpose. The presence of too much dextrin causes the formation of a precipitate when the broth is added to blood serum, whether normal or immune. The use of 1 per cent. dextrin broth for dilution avoids this. The junction of the ascitic fluid is to promote bacterial growth.

APPLICATION OF METHOD

The method is applicable to the agglutination reactions of the pneumococci and the hemolytic streptococci as well as of the green producing streptococci.

* From the Department of Hygiene and Bacteriology of the University of Chicago.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

POLLEN ANTIGENS-LEDERLE.—Liquids obtained by extracting the dried pollen of plants with a liquid consisting of 67 per cent. glycerin and 33 per cent. saturated solution of sodium chloride.

Actions and Uses.—See general article, Pollen Extract Preparations (New and Nonofficial Remedies, 1921, p. 239).

Dosage.—See general article, Pollen Extract Preparations (New and Nonofficial Remedies, 1921, p. 240). Pollen antigens-Lederle are supplied in fifteen pollen unit strengths (one pollen unit represeuts 0.001 mg. of pollen). They are marketed in vials each containing 0.1 Cc., accompanied by vial containing 0.9 Cc. sterile distilled water with which the pollen antigen is diluted immediately before administraton. These doses are marketed as follows:

Series A: five vials containing for each consecutive dose (Nos. 1 to 5, inclusive) 1.5, 3, 6, 12 and 15 pollen units respectively, and five vials of sterile diluent with which to make the proper dilution of each dose.

Series B: five vials containing for each consecutive dose (Nos. 6 to 10, inclusive) 18, 30, 45, 60 and 90 pollen units respectively, and five vials of sterile diluent with which to make the proper dilution of each dose.

Series C: five vials containing for each consecutive dose (Nos. 11 to 15 inclusive) 150, 225, 300, 450 and 600 pollen units respectively, and five vials of sterile diluent with which to make the proper dilution of each dose.

Complete Series: packages containing the 15 doses, described in Series A, B, and C.

Diagnostic Test: consisting of 0.01 Cc. of a dilution representing 60 pollen units. It may be used cutaneously or intradermally.

Manufactured by the Lederle Antitoxin Laboratories, New York. No U. S. patent or trademark.

Pollen Antigen-Lederle (Ragweed).—A liquid prepared by extracting the proteins from the pollen of the ragweed (*Ambrosia artemisiaefolia*).

Pollen Antigen-Lederle (Timothy).—A liquid prepared by extracting the proteins from the pollen of the timothy (*Phleum pratense*).

Pollen antigens-Lederle are prepared by grinding the dried pollen with glass dust in a mortar for 2.5 hours, using a diluent composed of 67 per cent. glycerin and 33 per cent. saturated sodium chloride solution to moisten the pollen. Then sufficient of the glycerin-sodium chloride solution is added so that the total volume is such that 1 Cc. is equivalent to approximately 14,000 pollen units, the pollen unit having been arbitrarily chosen as the equivalent of 0.001 mg. of pollen. This mixture is shaken for 30 minutes and then kept at 37 C. for 16 hours. It is then shaken for 1 hour, centrifugalized and passed through Bucknes and Berkefeld filters.

Pollen antigens-Lederle are standardized by the complement fixation method to determine the active antigenic power of its protein conten . Immune serum is obtained from rabbits which have been immunize l with a gradually increasing number of units of pollen. Using th same technic for complement fixation as that adopted by the Research Laboratories for the Department of Health, New York, one pollen unit is found to be equivalent approximately to 1-20 of a unit of antigen, taking a unit of antigen as the smallest amount that gives complete fixation in the hemolytic series.

PITUGLANDOL-ROCHE.—An aqueous solution containing the active constituents of the posterior lobe of the pituitary gland of cattle, free from preservatives. It is physiologically standardized on the isolated uterus of the virgin guinea-pig so that 1 Cc. corresponds in activity to 0.003 Gm. betaiminazolylethylamine hydrochloride.

Actions and Uses.—See general article, Pituitary Gland (New and Nonofficial Remedies, 1921, p. 219).

Dosage.—0.5 to 1 Cc. by deep intramuscular, subcutaneous or intravenous injection.

Manufactured by F. Hoffmann-LaRoche & Co., Ltd., Basle, Switzerland (The Hoffmann-LaRoche Chemical Works, New York, distributor). No U. S. patent or trademark.

Ampuls Pituglandol-Roche: each contains 1.1 Cc.

PROCEEDINGS OF THE BOSTON SESSION

MINUTES OF THE SEVENTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT BOSTON, JUNE 6-10, 1921

(*Continued from page 1684*)

HOUSE OF DELEGATES

Second Meeting—Tuesday Morning, June 7

The House of Delegates met at 9:30 a. m. and was called to order by the Speaker.

The Secretary announced a quorum present.

The minutes of the previous meeting were read and approved.

Supplementary Report of the Committee on Credentials

Dr. H. B. Gibby, Pennsylvania, Chairman, presented a supplementary report for this committee, stating that four additional delegates had registered, making a total of 101.

It was moved and seconded that the report be accepted. Carried.

Report of the Reference Committee on Medical Education and Hospitals

Dr. Joseph Rilus Eastman, Indiana, Chairman, presented the report of the Reference Committee on Medical Education, as follows:

The Reference Committee on Medical Education and Hospitals commends the report of the Council on Medical Education and Hospitals.

Your committee is in full agreement with the declaration that medical educational and hospital problems should be largely under control of the medical profession, and further agrees that the American Medical Association, with its county and state medical society units, is fully qualified and able in all respects to carry on those projects which are in the interest of the medical profession in its relation to public welfare.

We also subscribe to the expressed opinion that these organizations represent the medium from which should emanate an intelligent and energetic propaganda for the education of the people and the profession in medical matters.

We note that the Council reports that five states are registering unusually large numbers of graduates of low grade medical colleges or are granting physician's licenses to osteopaths. Your committtee has no remedial measure to suggest, but would earnestly recommend that the Council give this matter special study during the ensuing year and, if possible, make some constructive suggestions on this point in the next annual report.

Your committee endorses the stand taken by the Council with reference to the reorganization of the undergraduate medical curriculum to the end that the student can be trained primarily as a general practitioner and that all attempts to produce specialists during the undergraduate periods should be avoided.

We deplore with the Council that hospital facilities are so meager in some quarters, and would recommend as a trial method the proposed general establishment of medical laboratories or hospital plants where well qualified physicians would be eager and satisfied to work. This would result in the giving of better medical treatment to all classes, rich and poor, and would make rural practice more attractive to right thinking medical men.

Your committee believes that the whole subject of medical education has undergone and is undergoing such rapid changes that some of the innovations now before us should be considered in the light of experiments in education. This refers, among other things, to the mooted question of the full-time clinical professorship. Whether he is to be permanent in our medical schools depends on factors which cannot properly be estimated at the present time. We think that, in all fairness, funds in the same abundance as are at the disposal of full-time clinicians should be appropriated for the conduct of medical teaching by part-time professors, if the comparison between the new and the old methods of clinical teaching is to be just.

J. Rilus Eastman, Chairman,
J. F. Siler, Isaac A. Abt,
Grover W. Wende, John S. Helms.

At the conclusion of the report, Dr. Eastman moved its adoption, which was seconded by Dr. Emil Mayer, New York, and carried.

Report of the Reference Committee on Constitution and By-Laws

Dr. Rock Sleyster, Wisconsin, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

Your committee is not prepared to offer any definite recommendation on that portion of the report of the Judicial Council (The Journal, June 11, 1921, p. 1662) dealing with the change in number of the Board of Trustees and the formation of seven trustee districts. Your committee believes, however, that there is much to be said in favor of the plan and that it should receive careful consideration at this time, throughout the year and at next year's session of the House.

To bring the question before the House, we offer and introduce the following amendments to the Constitution:

1. That the word "seven" be substituted for the word "nine" in the last line of Section 1, Article 6 (page 3).

2. That Section 2 be amended to read as follows: "Section 2. These officers shall be elected annually and shall serve for one year except the Trustees, who shall be elected annually, each to serve seven years, or until their successors are elected and installed, except that at the annual session in 1922 there shall be elected one Trustee for a term of seven years; at the annual session in 1923 there shall be elected one Trustee for a term of seven years, one for five years and one for four years; and at the annual session in 1924 there shall be elected one Trustee for a term of seven years, one for two years and one for one year."

Your committee recommends that the subject of formation of seven trustee districts be referred back to the Judicial Council to give an opportunity for any further consideration deemed necessary or advisable, and that the Council be directed to report back on the subject to the next House for action at the time the Constitutional Amendments are considered.

Your committee further recommends that the Board of Trustees be directed to attend to any necessary changes in the Articles of Incorporation.

Referring to that portion of the Secretary's report appearing under the heading "Memorials and Opinions" (The Journal, June 11, p. 1656), your committee recommends that provision be made for the reference of such matters to the Council on Scientific Assembly.

To accomplish this, we recommend the amendment of Section 4, Chapter IX, of the By-Laws (see page 19) as follows: . . . the continuation of the first sentence on page 20 so it shall read: "(2) To pass upon questions of policy in relation to section work and to investigate and report on scientific questions either on its own initiative or when such questions are referred to it by the House of Delegates."

Your committee offers and introduces this amendment to the By-Laws for action at the next session of the House.

Rock Sleyster, Chairman,
William F. Bacon, B. L. Bryant,
E. A. Hines, N. J. Blackwood.

At the conclusion of the report, Dr. Sleyster moved its adoption, which was seconded by Dr. J. W. Bell, Minnesota, and carried.

Report of Reference Committee on Rules and Order of Business

Dr. S. W. Welch, Alabama, Chairman, presented the report of the Reference Committee on Rules and Order of Business, which was discussed, amended and adopted in the following form:

RULES FOR THE GUIDANCE OF THE COMMITTEE ON CREDENTIALS

1. Credentials shall be of two parts. The first part shall be sent to the office of the Secretary of the American Medical Association by the secretary of the constituent association, not later than seven days prior to the first day of the first meeting of the House of Delegates, and shall be a list of delegates and alternates for that association. The constituent associations shall designate an alternate for each delegate, who may take the pledge of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the constituent association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said association. A certificate signed by the President or Secretary of the constituent association shall be deemed legal authority.

4. No alternate may be seated unless his credentials meet the same requirements as designated for the delegate and he can show written evidence that he is empowered by his delegate to act for him, except as provided for in Section 1 as amended.

Suggestion for Creation of New Committee

The Secretary presented the following communication from Dr. J. O. DeCourcy, Illinois, which was referred to the Board of Trustees:

I would suggest that a committee be created whose duty it shall be to make special and careful inquiry as to the real value and practical utility to members of the Association and to their clientele, and to the Public Health Service, of all electrical instruments, lung motors, body braces, prepared foods, and any and all other articles and appliances that are now, or may hereafter be advertised in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from time to time. Let this, too, include all medical and therapeutic books that may be advertised in THE JOURNAL. I feel that there is a growing and present need in the Association for the work and sanction of such a committee.

This committee should, I think, be made permanent, and authorized to report to the Association at the annual meetings, and at stated times through THE JOURNAL, as conditions of growth along this line and necessity may require.

The work of such a scientific committee, say, of three members, would be a protection not only to the membership but to the public at large.

Resolution of National Dental Association

The Secretary presented the following resolutions, which were adopted unanimously by the House of Delegates of the National Dental Association at its meeting held in Boston in 1920, which were referred to the Council on Medical Education and Hospitals:

Resolved, That in the standardization of hospitals the personnel of the staff should include a competent dentist whose duties should include consultation with the attending physician and aid in diagnosis by locating the source of focal infection in the mouth; and be it

Resolved, That such dental member of the hospital staff should insist on thorough use of the roentgen ray for locating diseased teeth and pyorrhea pockets, and that he should be trained in the correct interpretation of dental roentgenograms and that the interpretation of such roentgenograms be made preferably by the dental member of the staff; and that such dental member should supervise the instruction to nurses in the preparation of patients' mouths for operations and in the general oral hygiene for patients; and that he take care of any dental operations; and that a dental engine and other necessary instruments and apparatus for emergecy operations of all kinds be provided. Be it further

Resolved, That it is the sense of this Association that the sugge tions made and the policy outlined in these preambles and resolutions be adopted as the future policy of the Association; and that it be earnestly requested that hospital staffs be so constituted that the fullest cooperation may be had between the physicians and dentists in the diagnosis and treatment of cases.

ARTHUR E. SMITH, D.D.S., M.D., Chicago, Chairman
WILLIAM H. G. LOGAN, D.D.S., M.D., Chicago
C. EDMUND KELLS, D.D.S., New Orleans
C. R. LAWRENCE, D.D.S., Enid, Okla.

Report of Reference Committee on Reports of Officers

Dr. Frederic E. Sondern, New York, Chairman, presented the report of the Reference Committee on Reports of Officers, as follows:

Your committee has considered in detail the suggestions and recommendations contained in the communications from the various officers of the Association, and desires to report as follows:

ADDRESS OF DR. DWIGHT H. MURRAY, SPEAKER OF THE HOUSE OF DELEGATES

1. In brief, Dr. Murray recommends the establishment of means of communication between the medical profession and the general public concerning matters of medical interest, to promote a better understanding of the aims of the profession in the prevention and cure of disease, in the danger of irregular practitioners, and of ill-conceived medical laws. He proposes that this work shall be done, if possible, in conjunction with the U. S. Public Health Service, and with the public press; this, however, not to replace the formally suggested journal, the plans for which are still in the hands of the Board of Trustees. The President-Elect makes essentially the same plea in his address.

Your committee desires to express its approval of the proposed plan, with the belief that the expected results can be accomplished. It is also in favor of the cooperation with the U. S. Public Health Service in the publicity of matters which that body can advocate. As the U. S. Public Health Service is unable, and many of the newspapers are unwilling, to exploit subjects of controversy, such as certain proposed legislation, sectarianism in medicine and similar matters, we need for this purpose a public health journal of such attractiveness and merit that it will be salable to the public and able to hold its own on bookstands in competition with other educational periodicals.

[After reading the first section of the report, it was moved, seconded and carried that this section be referred to the Board of Trustees with the commendation of the House of Delegates.]

2. The suggestion that the delegates render a written report to the associations they represent, and their component bodies, is also endorsed in the belief that all possible means should be employed to harmonize the activities and create a better understanding between the constituent and component bodies of the national organization.

3. The recommendation that the standard section of the penal law relative to untrue and misleading advertisements now operative in twenty-three states should be urged for enactment in all other states is also approved, with the suggestion that the state associations concerned should be informed of this action by the proper official of this Association.

ADDRESS OF SURGEON-GENERAL BRAISTED, PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION

4. Your committee begs leave to commend the retiring President on his dignified and successful administration, characterized throughout by uniform harmony and good will. We congratulate him on the achievement of the Gorgas Memorial, a fitting honor to our illustrious ex-president. We believe we are able to assure him of his anticipated support by the members of the American Medical Association in his endeavor.

5. While his advocacy of the contemplated Department of Public Welfare had due consideration and the full sympathy of your committee, the specific report on this measure is the concern of the Reference Committee on Legislation and Political Action.

6. Relative to the closer association of the practice of medicine and pharmacy, and the proposed efforts to enhance the dignity of the latter calling, your committee is of the belief that this is a most important endeavor; that every effort should be made to develop pharmacy as a profession in contradistinction to the druggist, and recommends that this problem should be referred through the Board of Trustees to the Council on Pharmacy and Chemistry for study and suggested action.

7. President Braisted's report on his thorough inspection of the activities in the home office of the Association is noteworthy, and his sincere praise of all concerned in that efficient management must be a satisfaction to all members of the Association.

ADDRESS OF DR. HUBERT WORK, PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

8. The suggestion that this House set aside one-half day as an executive session for the consideration of new ideas is commended as being in keeping with modern democratic spirit, and its value is fully realized; but the recommendation is not considered necessary, as the House of Delegates now has the power not only to go into executive session but also into committee of the whole for the unrestricted discussion of any problems. In this way also the time and

limit of such session can be arranged by the majority to meet the particuar circumstances which arise.

9. The recommendation relative to reducing the number of Trustees and lengthening their terms, was referred to the Judicial Council at the 1920 session of the House, and is now held for report by the Reference Committee on Amendments to Constitution and By-Laws.

10. The consideration of the privilege of the various sections each to nominate a member to the House for president of the Scientific Assembly would not seem to require a special enactment on the part of this House, as all the sections now have the right, and should use it in their direction as in the past through their respective representatives seated in the House of Delegates.

11. The subject of community graduate work, as detailed by the President-Elect, is one which has had the particular attention of two of the councils, and we can rely on their wisdom in meeting this need.

12. The reference to the need of full-time paid secretaries for state associations, as well as similar field secretaries for the national body, is fully approved and recommended; but your committee directs attention to the complex character of their work, and the great difficulty of securing a medical man of sufficient caliber and versatility to accomplish successfully the objects for which he is appointed.

13. Officially to seat all ex-presidents in the House of Delegates will require an amendment to the By-Laws.

14. The congressional bills relative to prenatal and maternity care, and the establishment of a Department of Welfare are doubtless in the hands of the Reference Committee on Legislation and Political Relations for consideration and report.

Respectfully submitted,

FREDERIC E. SONDERN, Chairman,
J. N. HALL, FRANKLIN E. MURPHY,
HOLMAN TAYLOR, J. F. BURNHAM.

On separate motions, which were duly seconded, Sections 2, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 were adopted, while Section 3 was referred to the Council on Health and Public Instruction, and Section 14 was referred to the Reference Committee on Legislation and Public Relations.

Report of Reference Committee on Legislation and Public Relations

Dr. J. H. J. Upham, Ohio, Chairman, presented the report of the Reference Committee on Legislation and Political Relations, as follows:

The Reference Committee on Legislation and Public Relations makes a partial report as follows:

The resolution introduced by Dr. Wilmer Krusen, Pennsylvania, commending the work of the American committee for the devastated areas of France, is approved and we recommend its adoption.

The resolution of Dr. F. E. Sondern, New York, concerning universal military training, was carefully considered; and while the committee endorses the ideas expressed, it cannot find any concrete proposition to act on and therefore cannot make any definite recommendation.

The resolution of Dr. J. H. J. Upham, Ohio, concerning the recommendation for the removal of the special tax on ethyl alcohol, is recommended for approval.

The resolution of Dr. E. L. Hunt regarding Senate Bill 206 and House Bill 2193, containing a clause prohibiting the importation of opium or cocain except as prescribed by the Secretary of State, the Secretary of the Treasury and the Secretary of Commerce, was carefully considered; the committee feels that in view of the fact that a resolution recommending a survey looking toward determining the needs of the country in regard to narcotic drugs was adopted last year and that inasmuch as this survey has not been completed, therefore it would be inadvisable to attempt to limit the importation of such drugs for the present, and recommends the adoption of the resolution.

Concerning the following resolution of Dr. E. L. Hunt, New York:

Resolved, That the American Medical Association be urged to perfect a plan to facilitate the extension of interstate practice without the lowering of medical standards now existing in New York State,

the regulation of the practice of medicine, like the regulation of any other occupation, profession or trade for the public good, comes under the state police power. Interstate regulation can come about only through the voluntary cooperation of the various state boards. This, as is shown by the Reports of the Council on Medical Education, is becoming more general. Each year the American Medical Association has repeatedly expressed itself as in favor of reciprocity. Your committee, therefore, recommends that this resolution be tabled.

J. H. UPHAM, Chairman,
J. W. BELL, W. H. SEEMANN,
H. G. STETSON, S. E. LAMBERT.

On separate motions, which were duly seconded, the various sections of the report were adopted.

Dr. Upham moved the adoption of the report as a whole, which was seconded by Dr. W. H. Seemann, Louisiana, and carried.

Memorial to the President of the United States

Dr. Hubert Work, Colorado, President-Elect, presented the following memorial to the President of the United States, which on motion, duly seconded and carried, was referred to the Reference Committee on Legislation and Public Relations:

To the President of the United States—Greeting:

The American Medical Association through its executive body, the House of Delegates, desires to express its appreciation of your attitude toward public welfare, through educational advancement, public health, administration, social security, soldier rehabilitation, child protection and Americanization.

This body of 85,000 educated, trained and licensed practitioners of medicine desires respectfully to assure you of its loyal support of the general policy you have caused to be outlined for correlation of the activities of the aforementioned foundations of American safety and progress.

Various Resolutions

Dr. Hubert Work, Colorado, also presented the following resolution, which on motion, duly seconded and carried, was referred to the Board of Trustees:

Resolved, That the House of Delegates authorize the Trustees of the American Medical Association to set apart $100,000 for graduate teaching.

That foundations interested in medical progress be requested to supplement this fund with $100,000 for the same purpose.

That state medical societies be asked to contribute a sum of $50,000, prorated by per capita membership in the respective state societies, to be covered into a common fund for graduate teaching in states.

That this fund shall be employed, directed and administered by the Trustees of the American Medical Association, together with representatives of the foundations joining in it, through full-time paid executive secretaries of state medical societies.

Dr. D. E. Sullivan, New Hampshire, offered the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the Medical Society of the State of New Hampshire is emphatically opposed to "State Medicine," and to any scheme for "Health Centers," "Group Medicine" and to "Diagnostic Clinics," either wholly or partly controlled, operated or subsidized by the state or national government; and that the delegate from this society to the American Medical Association be and is hereby instructed to present this resolution to the House of Delegates of the Americas Medical Association at its coming session in June and to use every possible means to secure its adoption.

Dr. W. S. Rankin, North Carolina, a member of the Council on Health and Public Instruction, was accorded the privileges of the floor to present the following resolution, which on motion, duly seconded and carried, was referred to the Reference Committee on Legislation and Public Relations:

RESOLUTION DEFINING THE MEANING OF THE TERM "STATE MEDICINE"

WHEREAS, The term "State Medicine" has a liberal meaning so general as to include public practice and policies, some of which are desirable and some of which are objectionable, and,

WHEREAS, The term "State Medicine" has been and is being used, frequently and extensively, with confused and without established meaning, and

WHEREAS, Such use of the term has resulted in and continues to produce much misunderstandings, controversy and antagonism both within the profession and between the profession and the public, now, therefore, be it

Resolved, By the House of Delegates of the Medical Association that to prevent further use of the term with resulting misunderstandings and controversy and to facilitate intelligent discussion and action, "State Medicine" be and is hereby defined as follows:

State Medicine is any practice or policy provided for in the legislative acts of a state which has to do with the prevention or treatment of disease, and among other requirements and provision includes:

1. Legislation that determines who shall be permitted and who shall not be permitted to treat disease and prescribe the conditions under which a person may practice medicine;

2. Legislation which provides institutional treatment and care for the delinquent, the defective and the diseased, including institutions for the feebleminded, the deaf and blind, the psychopathic and insane, and the tuberculous;

3. Legislation which provides for the education of the general public in matters of personal and public hygiene, giving them a higher appreciation of the value and use of medical science through printed matter, addresses, moving pictures, visiting nurses and other means of proved educational value;

4. Legislation which provides public laboratories for assisting the profession in the diagnosis of specimens, of pathologic material, and further assist the profession by providing and furnishing various biologic products of preventive and curative value;

5. Legislation which provides for sickness insurance, especially as practiced is England, and which provides for panels of physicians who are paid out of public funds, and at rates fixed by the state;

6. Legislation which provides for the reporting by physicians of births, deaths and communicable diseases, and prescribes measures for their control;

7. Legislation which provides for the physical examination of schoolchildren, for the purpose of finding those that suffer from common defect with the view of securing treatment of such defect, both in the interest of the individual child and in the interest of the classes in which he recites and retards;

8. Legislation which provides dispensaries for the examination and treatment of diseases of such prevalent and far-reaching effect on the public health as to constitute large and unnecessary handicaps to social progress, as, for example, dispensaries for venereal diseases, and trachoma and hookworm diseases in certain sections of the country.

Dr. Eden V. Delphey, New York, offered the following resolution, which was referred to the Reference Committee on Legislation and Political Relations:

Resolved, That the term "State Medicine" be defined by this Association as the practice of medicine by the state by physicians on a salary to the exclusion of all other and individual practice of medicine.

Dr. William Gerry Morgan, District of Columbia, presented a resolution from the District of Columbia, urging the establishment of a section on anesthesia, which was referred to the Reference Committee on Sections and Section Work.

Dr. Arthur T. McCormack, Kentucky, moved that, when the Reference Committee on Legislation and Public Relations made its report, the report be referred to the Committee of the Whole House, which shall consider it in executive session.

Seconded by Dr. E. Eliot Harris, New York.

Dr. James F. Rooney, New York, moved as an amendment that when the House adjourns, it adjourn to reconvene at 9:30 a. m., Thursday.

Seconded by Dr. Eden V. Delphey, New York.

The amendment was accepted, and the original motion as amended was put to a vote and carried.

Report of Reference Committee on Sections and Section Work

Dr. H. P. Linsz, West Virginia, Chairman, presented the report of the Reference Committee on Sections and Section Work, as follows:

Application has been made for the establishment of a section on anesthesia. The committee has reviewed carefully this question, and while it is in sympathy with the ambition and plans of those Fellows who wish to establish such a section, it has concluded that the recent recommendation of the Council on Scientific Assembly should be adopted. The committee feels that new sections should be established only after mature and long deliberation, and it regards as eminently wise the suggestion made by the Council that all Fellows who wish to establish a new section present their papers first through the Section on Miscellaneous Topics. From the character and number of papers thus presented, the need for such a section can be determined. The committee, therefore, recommends that no new section be created this year.

H. P. LINSZ, Chairman,
HOWARD FOX,
JAMES S. MCLESTER.

Dr. Linsz moved the adoption of the report, which was seconded by Dr. James S. McLester, Alabama, and carried.

The Secretary stated that the Judicial Council and other councils might have supplementary reports to make for the information of the House of Delegates, and suggested that authority be given him to transmit to the proper reference committees resolutions which might come to him from the sections without first presenting them to the House of Delegates. He suggested, further, that the councils of the Association be given an opportunity along with the Board of Trustees to make supplementary reports to the House of Delegates on Thursday afternoon.

Accordingly, Dr. W H. Seemann, Louisiana, moved that the suggestions and recommendations of the Secretary be carried into effect.

Seconded by Dr. C. Van Zwalenberg, California, and carried.

Dr. James F. Rooney, New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the American Medical Association defines "State Medicine" to be any method providing for the practice of medicine under the direction, subsidy or control of the state or national government, excepting those functions having to do with preventive medicine and public health which do not involve the treatment of disease except that which is communicable.

On motion of Dr. J. W. Van Derslice, Illinois, which was duly seconded and carried, the House of Delegates then adjourned to meet at 9:30 a. m., Thursday, June 9.

Third Meeting—Thursday Morning, June 9

The House of Delegates met at 9:30 a. m. and was called to order by the Speaker.

The Secretary announced a quorum present.

Dr. H. B. Gibby, Pennsylvania, Chairman, presented a supplementary report for the Committee on Credentials, stating that 130 delegates had registered and were entitled to be seated.

As there was no objection, the report was accepted.

The minutes of the previous meeting were read, corrected and approved.

Dr. John E. Lane, Connecticut, rose to a question of personal privilege. He called attention to a circular criticizing Dr. Frank Billings which seems to have been generally distributed. As a member of the House of Delegates, he felt that the House should be made aware of the contents of this circular, and should seek the motive of its distribution and the identity of those who caused it to be printed and circulated. He asked that the Secretary read the circular.

The Secretary read the following:

DR. FRANK BILLINGS UNEQUIVOCALLY IN FAVOR OF COMPULSORY HEALTH INSURANCE AND HEALTH CENTERS AS EVIDENCED BY THE FOLLOWING:

In Vol. VII, No. 1, Page 54, March, 1917, of the *American Labor Legislation Review*, I find the following:

I am unequivocally in favor of compulsory insurance and the protection of maternity. That, I think, must be the attitude of any one who studies the question of illness in its relation to economic conditions. I am in favor of them, too, because our present method of managing the sick poor is about as bad as it can be. While we endeavor in every way to alleviate their sufferings and to put them back at work, our methods are loose. There is no unit of efficiency. The great number of hospitals and dispensaries which exist are said not to be enough, because they cannot take care of all the sick poor; and yet, from the standpoint of what would be necessary if we controlled the sources of disease, they are too many.

To my mind health insurance is going to be one of the best measures of preventive medicine. Under its stimulus the time will come when every community, to economize its taxes under this law, will see that there are practically no patients suffering from typhoid fever within its limits. We will have no smallpox; diphtheria will be diminished; everything known to be communicable will be diminished and many of the diseases incident to some confined, chronic affection will be removed. Such results will not be achieved except by some measure of state supervision, and I know of no state supervision which will equal state compulsory insurance.

I would like to have Dr. Lambert describe a little better the provisions for an inquisitorial body over all the health insurance work. You know, and I know, that we do not do our work well unless there is some incentive, something to make us do it properly, and so I think that in this bill there must be something of that kind.

Dr. Billings in THE JOURNAL A. M. A., Volume 76, No. 6, February 5, 1921, takes five pages to describe his latest panacea for all medical ills, namely, Health Centers. Health Centers are unquestionably the shortest route possible to "State Medicine." "State Medicine" is more detrimental to the interests of the profession than is Compulsory Health Insurance. Compulsory Health Insurance, State Medicine, Health

Centers have all been condemned by the New York State, Illinois State and several other state societies and are condemned universally by the medical profession.

After the Secretary had finished reading, Dr. Billings made the following statement:

Mr. Speaker and Members of the House of Delegates:

I shall not take much of your time, and shall endeavor to frame my words so that there will be no misunderstanding. I was apprised day before yesterday of the distribution of the circular which has just been read by the Secretary. The context of that circular is not given. The date is not given.

In 1916, Royal Meeker, Commissioner of Labor Statistics, called a conference in Washington to consider prenatal and maternity care and insurance matters. There were present at that conference many insurance men representative of the regular insurance companies of this country. There were others interested in child welfare. There were present those who were interested in industrial medicine, and the subject under discussion was not so much health insurance as it was the main subject that I have mentioned. My remarks are, I suppose, as published, from a stenographic report. I did not see them until they appeared in the *Journal* of the Illinois State Medical Society, quoted in an article written by Dr. E. H. Ochsner, of Chicago, in a personal attack made on me as a proponent of compulsory health insurance and of state medicine, in spite of the fact that it does not make any difference in the sentiments which were ascribed to me in 1916. Since that time, I have declared in published articles that compulsory health insurance was not applicable to the United States, and that I am opposed to it, and that state medicine as related to the treatment of disease I look on in the same way. Gentlemen, this is important to you. It has no effect on me as an individual excepting this: As a member of the House of Delegates, as a Trustee of the Association, I am charged with duplicity before the profession of this country. I am charged before you and before the profession with writing articles and working for the legal enactment of compulsory health insurance and of state medicine in this country while saying to you and to the profession that I am opposed to it.

You honored me in the past with the highest office in the gift of the Association. I was a member of this House for the succeeding eight years. Since then I have not been a member of the House except as a member of the Board of Trustees, to which body I was elected in 1918. To these offices I was elected without any request on my part. I have never come before the profession of the country or of organized medicine with the request that you support me in anything. You have honored me in the past without any particular influence being exerted on my part, and I have tried to render efficient service to the Association in the offices to which you elected me.

I leave it with you as to whether this is just treatment. Finally, I would ask that this circular and the authors of its circulation be brought to the bar of the House through the Judicial Council.

Dr. Arthur T. McCormack, Kentucky, moved that the House express its confidence in Dr. Frank Billings, Chicago, and that the matter be referred to the Judicial Council with power to act.

Seconded by Dr. J. Q. Myers, North Carolina, and unanimously carried.

Supplementary Report of Board of Trustees

Dr. A. R. Mitchell, Nebraska, Chairman, presented a supplementary report for the Board of Trustees, as follows:

In this supplementary report of the Board of Trustees, and relative to the recommendation of the Speaker of the House of Delegates, which is in keeping with like recommendations from the delegation of Ohio, and from other sources in regard to the publication of a health journal, which will be the vehicle of a better understanding of the aims of the profession in the prevention and cure of disease, in the better understanding of the solution of the problems relating to danger of irregular practitioners, of ill conceived medical laws, and finally as a means of education of the public working in conjunction with the United States Public Health Service and the public press, we desire to say that the matter of the publication of such a journal has been under consideration by the board for two or more years.

The present facilities for press-work at the headquarters of the Association are so fully occupied in the publications already undertaken that in the opinion of the board it is practically impossible at the present time to publish any additional special journal. With the erection of a new building, which this House has approved, and which we hope may be accomplished within a year, the press facilities will then be so increased that the Association may undertake the publication of an up-to-date public health journal as well as other special journals which many of the profession desire.

Relative to the resolution presented from Dr. J. O. De Courcy, Illinois, in which it is suggested that a committee be created whose duty it shall be to make special and careful inquiry as to the real value and practical utility of all electrical instruments, lung motors, body braces, prepared foods, and any and all other articles and appliances that are now and may be hereafter advertised in THE JOURNAL, and the resolution requesting that this committee also include in its work all medical and therapeutic books that may be advertised in THE JOURNAL: The board desires the House to know that the work of the proposed committee is already undertaken by the Council on Pharmacy and Chemistry, and by other committees of the Association, and it is the opinion of the board that the appoinmtent of the committee suggested would be superfluous and unnecessary.

Dr. H. P. Linsz, West Virginia, moved the adoption of the report, which was seconded by Dr. S. L. Baysinger, Missouri, and carried.

Supplementary Report of Judicial Council

Dr. M. L. Harris, Illinois, Chairman, presented a supplementary report for the Judicial Council. He stated that the Judicial Council had had referred to it an application from the Alaskan Territorial Medical Association praying that it be constituted a constituent association of the American Medical Association. This application had been filed in proper form, was accompanied by a copy of the by-laws which had been adopted by the Alaskan Territorial Medical Association, which by-laws conformed to the standard form of by-laws for constituent associations and adopted by the American Medical Association. It was also accompanied by a certified oath of allegiance to the American Medical Association and the principles of the American Medical Association as determined by the Constitution and By-Laws.

The Judicial Council therefore recommends that the Alaskan Territorial Medical Association be received and made a constituent association of the American Medical Association.

Dr. Cornelius Van Zwalenburg, California, moved the adoption of the report, and that the Alaskan Territorial Medical Association be made a constituent association, which was seconded by Dr. W. H. Seemann, Louisiana, and carried.

Supplementary Report of Reference Committee on Constitution and By-Laws

Dr. Rock Sleyster, Wisconsin, Chairman, presented a supplementary report for the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

Your committee has given careful consideration to the subject of making Ex-Presidents of the Association ex-officio members of the House of Delegates, but without the right to vote. We favor this recognition of our Ex-Presidents and believe the House should have the benefit of their experienced judgment and advice in its deliberations. To accomplish this will require the introduction of an amendment to the Constitution which goes over for final action by next year's House.

The last sentence of Section 2, Article 5, of the Constitution reads:

> The Trustees shall be ex-officio members of the House of Delegates, but without the right to vote.

We offer and introduce the following amendment—that this sentence be changed to read:

> The Trustees and Ex-Presidents of the Association shall be ex-officio members of the House of Delegates, but without the right to vote.

At the second session of the House on Tuesday, referring to the report of the Secretary, your committee recommended

that provision be made for the reference of scientific questions to the Council on Scientific Assembly, and to accomplish this your committee recommended at that time an amendment to Section 4, Chapter 9 of the By-Laws, and it now moves the adoption of that amendment.

ROCK SLEYSTER, Chairman,
WILLIAM F. BACON, B. L. BRYANT,
E. A. HINES, N. J. BLACKWOOD.

After reading the report, Dr. Sleyster moved its adoption, which was seconded by Dr. Horace M. Brown, Wisconsin, and carried.

Supplementary Report of Reference Committee on Reports of Officers

Dr. Frederic E. Sondern, New York, Chairman, presented the following supplementary report of the Reference Committee on Reports of Officers.

Your committee desires to submit an additional report as follows:

Report of Alexander R. Craig, Secretary of the American Medical Association.

The Secretary reports the favorable showing of a net increase of 3,925 in the Fellowship of the Association, as compared with 1,633 in the previous year, which can be construed as an endorsement of the principles of the Association efficiently carried out by the officers you have elected for the purpose.

He records the death during the year of Dr. Isadore Dyer, vice president of the Association, and member of the Council on Medical Education and Hospitals.

The report directs attention to a postwar development of tendencies toward commercial ideals on the part of some physicians rather than strict adherence to the standards which this Association long ago nailed to the mast. If this is true, some doubt may exist whether it is correctly ascribed to a reaction from altruistic and patriotic motives existing during the war. The high cost of living, and a certain evolution affecting the practice of medicine, to say nothing of the attempted paternalistic activities supposedly aimed to improve the condition of the workman, have made the economic outlook, particularly of the rank and file physician, indistinct and beset with doubts and fears concerning his ability to continue to meet these future uncertain conditions. It is easily possible that his anxiety in this regard has been misconstrued as a change from altruistic to commercial ideals. It is difficult to believe that our profession with enviable tradition since the beginning should now be displaying evidences of degeneration when the rest of the world after considerable sacrifice is establishing loftier and more harmonious ideals. The basic principles on which this matter may rest to a large extent are having the attention of this House, and your committee relies on your wisdom for a satisfactory solution which will, we believe, also dispose of the subject-matter of this review in a like manner.

The Secretary's plea for closer coordination of the constituent bodies of this Association is one which deserves your earnest consideration in the interest of united effort for the best interests of public health and the profession. While automatic membership in the state society and in the American Medical Association of every physician admitted to the county society would be a long step in the direction of accomplishing this end, a greater development of the office of the Secretary of the American Medical Association as a clearing house for the interchange of plans to promote better understanding and the elaboration of effective measures is urged, so far as this work is not already embraced in the activities of the various councils.

The recommendation of efforts to create a better understanding between the medical profession and the general public is covered by a previous recommendation to you from this committee.

Your committee desires to commend the activities of the Secretary of the Association this year as in the past, and to advise the closest cooperation between his office and that of the secretary of every constituent state society.

REPORT OF THE BOARD OF TRUSTEES

To appreciate that the annual gross income of the Association was over $800,000 is to realize that your Board of Trustees conducts an enterprise of considerable magnitude. The fact that they have been able to render you the identical service of former years, at an advance of but 20 per cent. over your former dues, despite the enormous increase in the cost of labor and materials, demonstrates an unusually efficient organization of which they and their General Manager may justly be proud, and for which the Association should be correspondingly grateful.

The details concerning the various special journals and other publications issued by the Association are well worthy of your consideration; and while some of them are produced with financial loss, their beneficial influence is such that their continuation is strongly urged. It is suggested that the usefulness and high standard of these publications should be more frequently mentioned by the journals of state societies from which an increase in the subscription lists would result.

The usefulness of the Cooperative Medical Advertising Bureau evidently becomes greater from year to year, and it is commended as the best means of keeping the advertisements in the state journals on a common high plane. This bureau now represents all the state journals except one, and it seems unfortunate that a single exception should exist.

Relative to the plans of the board in the matter of the new building, it is the opinion of your committee that this matter is well placed in their hands and that their action will meet with full approval.

Your committee notes with satisfaction and pride the appointment by the Secretary of the Treasury of a member of our Board of Trustees to a position on the Board of Consultants on hospitalization of ex-service men.

The Propaganda Department has continued its efficient, useful work and again deserves your praise and support.

The noteworthy accomplishments of the Council on Pharmacy and Chemistry again earn for it your appreciation and commendation. Your committee notes with some alarm the existing dangers in the fields of biologic, endocrine and intravenous therapy, and would urge on the Trustees an investigation and report on these subjects by the Committee on Therapeutic Research. Attention is also directed to a resolution adopted at the New Orleans Session, that efforts should be made to limit the dispensing of endocrine substances to physician's prescriptions.

Your committee inadvertently overlooked the suggestion of the Speaker, that a committee consisting of the Surgeon-General of the U. S. Public Health Service, members of the Board of Trustees and of the House of Delegates should be appointed to perfect the plan of medical publicity as detailed in his report. Your committee approves this recommendation and urges its adoption.

Respectfully submitted,

FREDERIC E. SONDERN, Chairman,
J. N. HALL, FRANKLIN E. MURPHY,
HOLMAN TAYLOR, J. F. BURNHAM.

Dr. Sondern moved the adoption of the report, which was seconded by Dr. James F. Rooney, New York.

The Speaker called attention to the fact that the committee had not recommended in its report how the committee referred to in the last section of its report was to be appointed, and stated that if there was no objection he would refer this to the Board of Trustees.

The motion to adopt the report was then put and carried.

Report of Reference Committee on Miscellaneous Business

Dr. Southgate Leigh, Virginia, Chairman, presented the report of the Reference Committee on Miscellaneous Business, as follows:

The committee had before it a communication from Dr. F. E. Sondern, New York, relative to defense and indemnity insurance, in which it was suggested that other state associations follow the example of New York in providing indemnity as well as defense in malpractice suits.

Before recommending that the House of Delegates of the American Medical Association approve the principle and its favorable consideration to the constituent societies of the

Association, it is suggested that at least a year's time be allowed to observe the working of the plan in New York State.

A further recommendation of Dr. F. E. Sondern, New York, to the effect that it is desirable to secure increased efficiency in the consideration of legal liability of physicians, by coordination of effort and interchange of information on the part of the legal counsel of the various constituent societies, to the end that better understanding of the problems arising in the defense of physicians can be secured, your committee heartily commends this suggestion, and recommends that the matter be referred to the Judicial Council for further consideration and action.

SOUTHGATE LEIGH, Chairman,
WILLIAM GERRY MORGAN, R. L. GREEN,
BEN R. MCCLELLAN, A. W. HORNBOGEN.

The report was considered section by section.

Dr. Arthur T. McCormack, Kentucky, moved as an amendment to Section 1 of the report, that the Judicial Council investigate the feasibility of the American Medical Association organizing a national medical defense system so that the money that is now being paid by the profession can be properly divided among the members of the profession to whom it rightfully belongs.

The amendment was seconded, accepted, and the original motion as amended was put to a vote and carried.

Section 2 was read. Dr. Frederic E. Sondern, New York, stated that the same resolution had been referred to the Board of Trustees.

Accordingly, Dr. Leigh moved that this section be referred to the Board of Trustees, which was seconded and carried.

Dr. Leigh moved that the report, as amended, be adopted as a whole, which motion was seconded by Dr. J. W. Bell, Minnesota, and carried.

The Speaker called for the report of the Reference Committee on Hygiene and Public Health.

Dr. J. W. Schereschewsky, District of Columbia, Chairman, stated that the committee was not yet ready to report, and asked for further time, which was granted.

Dr. Arthur T. McCormack, Kentucky, asked unanimous consent, which was granted, and moved to change the order of business so that new business could be presented before the House goes into a Committee of the Whole to consider the report of the Reference Committee on Legislation and Public Relations.

Seconded and carried.

Dr. James A. Hayne, South Carolina, delegate from the Section on Preventive Medicine and Public Health, presented the following recommendation, which was adopted by this section and referred to the House of Delegates:

It is recommended that an executive secretary of the American Medical Association be directed to follow closely all legislation, both state and national, through an organization to be formed throughout each state.

The Speaker stated that this matter was already covered in the report of the Board of Trustees.

The section recommends to the House of Delegates that the name of the Section on Preventive Medicine and Public Health be changed to Preventive and Industrial Medicine and Public Health.

This recommendation was referred to the Council on Scientific Assembly.

The following resolution was presented:

Resolved, That the Section on Preventive Medicine and Public Health of the American Medical Association recommends to the House of Delegates that it ask the constituent associations to consider the advisability of such amendments to their By-Laws and to those of their component societies as will eliminate from membership any physician who wilfully fails or refuses to comply with local or state health laws, for the prevention of disease, including especially the provisions in such laws requiring the reporting of cases of communicable disease.

This resolution was referred to the Judicial Council.

The following resolution was presented:

WHEREAS, National health is the foundation of national prosperity and happiness, and

WHEREAS, The most important function of government is the protection and promotion of public health; therefore, be it

Resolved, By the House of Delegates of the American Medical Association, that the protection of the public health should not be submerged in a proposed Department of Public Welfare, but that a Department of Health with a secretary in the President's Cabinet be created.

This resolution was referred to the Board of Trustees.

Dr. Victor C. Vaughan, Michigan, Chairman, presented a delayed report from the Council on Health and Public Instruction, as follows:

WHEREAS, Reproach has been brought upon the medical profession by some of its members who have misused the law which permits the prescribing of alcohol, and

WHEREAS, A ruling of the Attorney General has led to the inference that beer is regarded by the medical profession as a therapeutic agent and that its use is demanded by the profession, therefore be it

Resolved, That the American Medical Association reiterates and reaffirms its judgment, expressed by vote of the House of Delegates in 1917, that alcohol as a beverage is detrimental to the human economy, and that its use as a food or in therapeutics as a tonic and stimulant has no scientific basis; and be it further

Resolved, That the American Medical Association now expresses its disapproval of the acceptance of a small minority of the profession of the position of being purveyors of alcoholic beverages.

Dr. Frederick C. Warnshuis, Michigan, moved the adoption of the resolution, which was seconded by Dr. S. L. Baysinger, Missouri.

After discussion by Dr. W. H. Seemann, Louisiana, Dr. James F. Rooney, New York, and Dr. A. T. McCormack, Kentucky, it was suggested that these resolutions be referred to the Council on Scientific Assembly for consideration and report at the next annual session. A motion so to refer was made, seconded and put to vote. The vote was a tie and the Speaker declared the motion carried.

Dr. Arthur T. McCormack, Kentucky, moved that the Council on Health and Public Instruction be instructed to report to the House of Delegates at this session a resolution stating the position of the profession on the prostitution of its privileges by certain of its members in the promiscuous and illegitimate prescribing of alcohol.

Seconded by Dr. James F. Rooney, New York, and carried.

The Speaker stated that according to a motion made at a previous meeting of the House, the report of the Reference Committee on Legislation and Public Relations was to be referred to a Committee of the Whole House which shall consider it in executive session.

Dr. Horace M. Brown, Wisconsin, moved that when the House goes into the Committee of the Whole, all debate be limited to five minute addresses by the individual delegates; no member to speak a second time until all who wish to speak have been heard, except by the permission of the committee.

Dr. W. H. Seemann, Louisiana, moved that the House now go into the Committee of the Whole to consider the report of the Reference Committee on Legislation and Public Relations.

Seconded and carried.

Whereon the Speaker appointed E. Eliot Harris, New York, Chairman, and the Secretary of the Association clerk of the committee.

The House then resolved itself into the Committee of the Whole.

The House of Delegates reconvened at 1:30 p. m., and the chairman of the Committee of the Whole said he was ready to report for the committee.

On motion, which was duly seconded and carried, the House of Delegates adjourned to meet at 2 p. m.

Fourth Meeting—Thursday Afternoon, June 9

The House of Delegates reconvened at 2 p. m., and was called to order by the Speaker.

The Secretary called the roll, and 130 delegates responded.

Dr. H. B. Gibby, Pennsylvania, chairman of the Committee on Credentials, moved that the roll as read constitute the roster of the House of Delegates for this annual session.

Seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

The reading of the minutes of the previous meeting was dispensed with.

Election of Officers

The next order of business being the election of officers, Dr. John D. McLean, Pennsylvania, nominated Dr. George E. de Schweinitz, Pennsylvania, for President-Elect.

The nomination was seconded by Dr. James F. Rooney, New York; Dr. A. E. Bulson, Indiana; John G. South, Kentucky; Dr. Thomas C. Chalmers, New York; Dr. Henry P. Linsz, West Virginia; Dr. James W. May, Kansas; Dr. Charles J. Whalen, Illinois, and Dr. Lee M. Francis, delegate from the section of Ophthalmology, after which Dr. Arthur T. McCormack, Kentucky, moved that nominations be closed, that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. George E. de Schweinitz, and the Speaker declared him duly elected.

Dr. Arthur T. McCormack, Kentucky, moved that a committee of two be appointed to notify Dr. de Schweinitz of his election and to present him to the House of Delegates.

Seconded by Dr. Frederic E. Sondern, New York, and carried.

The Speaker appointed as this committee Dr. Lee M. Francis, New York, and Dr. John D. McLean, Pennsylvania.

Dr. Joseph Rilus Eastman, Indiana, nominated Dr. Frank B. Wynn, Indiana, for Vice President.

The nomination was seconded by Dr. W. D. Haines, Ohio; Dr. Joseph A. Pettit, Oregon.

Dr. Cornelius Van Zwalenburg, California, moved that nominations be closed, and that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. Wynn, who was declared duly elected.

Dr. James F. Rooney, New York, nominated Dr. Alexander R. Craig for Secretary.

The nomination was seconded by Dr. H. P. Linsz, West Virginia, and by Dr. William F. Bacon, Pennsylvania.

Dr. Bacon moved that nominations be closed.

Seconded and carried.

Dr. Arthur T. McCormack moved that the Speaker cast the ballot of the House.

Seconded and carried.

Accordingly, the Speaker cast the ballot and declared Dr. Craig elected.

Dr. Frank Billings, secretary for the Board of Trustees, for the Board nominated as Treasurer Dr. William Allen Pusey, Illinois.

Dr. Arthur T. McCormack, Kentucky, seconded the nomination, and moved that nominations be closed, and that the Secretary be instructed to cast the ballot of the House for Dr. Pusey.

Seconded and carried.

The Secretary cast the ballot, and Dr. Pusey was declared duly elected.

Dr. E. Eliot Harris, New York, nominated Dr. Dwight H. Murray, New York, as Speaker of the House of Delegates.

The Vice Speaker, Dr. F. C. Warnshuis, Michigan, took the chair.

The nomination was seconded by Dr. James A. Hayne, South Carolina; Dr. S. W. Welch, Alabama; Dr. J. Q. Myers, North Carolina; Dr. J. W. Bell, Minnesota, and Dr. Cornelius Van Zwalenburg, California.

Dr. Charles E. Humiston, Illinois, nominated Dr. M. L. Harris, Illinois, for Speaker.

This nomination was seconded by Dr. H. P. Beirne, Illinois, and Dr. E. R. LeCount, Section on Pathology and Physiology, Illinois.

Dr. R. L. Green, Illinois, moved that nominations be closed, and that the House proceed to ballot.

Seconded and carried.

There were 108 votes cast, of which Dr. Harris received 41, and Dr. Murray 67.

The Vice Speaker thereon declared Dr. Murray elected Speaker for the ensuing year.

The Speaker resumed the chair.

He thanked the members of the House of Delegates for their vote of confidence, and said he would try to do his best next year as he had tried to do this year.

The President-Elect was escorted to the platform and presented to the Speaker.

The Speaker then introduced Dr. de Schweinitz as the President-Elect of the American Medical Association.

Remarks by President-Elect de Schweinitz

Dr. de Schweinitz said:

Mr. Speaker and Members of the House of Delegates:

There is a story of the man in the far north of our country who, when a young man, was elected a member of the Council. Subsequently he was made mayor of the city. Then they ran him for governor of the state, and two old countrymen were discussing the situation. "George was all right as a member of the council," said one of the men. "Perhaps he was," replied the other, "but he spreads out pretty darn thin when it comes to running him for governor." (Laughter.)

Gentlemen, I have had some small jobs in my own city, but I think I spread out very thin when it comes to accepting the distinguished and honorable position to which you have by your grace elected me today. I fully realize that this body has not so much recognized what is the great joy of my life as it has recognized the fact that the Section on Ophthalmology from the early days, when separated into a section of its own, has endeavored to play the game well as it should do, to progress as it should progress, to keep up with the lines of progress as it should do; and in all honesty, I believe that on account of the splendid record made by the section to which I have the honor to belong, you have recognized it and have selected a member from this section to this very distinguished position. It is in that sense I accept the duties which shall fall on my shoulders, and I accept them in the hope that I shall do whatever I am called on to do in the light of one who not only works along special lines, but in the light of one who shall endeavor to improve his knowledge in regard to the great problems of medicine in all their relations—problems that have grown year by year so well and so sturdily. I think we must all believe that we who work should strive for the common good.

I have watched this great House of Delegates of the American Medical Association grow day by day and year by year, growing stronger and stronger as the representative body of the great temple of medicine, and those who have honesty in their hearts and honesty in purpose are striving, as I have tried to strive, to see this great American Medical Association rise to warm their souls at the fire of a common goal.

That I shall do the best that is in me to do, I need not prophesy. If you did not hope I would do that, you would not have put me where I am today, and so with the help of the great people who have been in similar positions, and with the help of you gentlemen and all of those who are so earnestly interested in everything that makes for the uplift of medicine, on that pledge I accept your distinguished gift. (Applause.)

Election of Officers, Continued

Dr. J. W. Wilson, Michigan, nominated Dr. Frederick C. Warnshuis, Michigan, as Vice Speaker of the House of Delegates.

The nomination was seconded by Dr. H. P. Beirne, Illinois; Dr. Arthur T. McCormack, Kentucky; Dr. H. P. Linsz, West Virginia; Dr. Joseph Rilus Eastman, Indiana, and Dr. Arthur J. Bedell, New York.

Dr. Bedell moved that nominations be closed.

Seconded and carried.

Dr. J. W. Van Derslice, Illinois, moved that the Secretary be instructed to cast the ballot of the House, which was seconded by Dr. Horace M. Brown, Wisconsin, and carried.

The Secretary cast the ballot for Dr. Warnshuis, who was declared duly elected Vice Speaker for the ensuing year.

Dr. Isaac A. Abt, delegate from the Section on Diseases of Children, nominated Dr. Frank Billings, Illinois, for Trustee to serve the term of three years.

The nomination was seconded by Dr. John Ridlon, delegate from the Section on Orthopedic Surgery; Dr. J. H. J. Upham, Ohio; Dr. Joseph S. Siler, U. S. Army; Dr. J. N. Hall, Colorado; Dr. James S. McLester, delegate from the Section on Practice of Medicine; Dr. C. R. Woodson, Missouri; Dr. Walter R. Steiner, Connecticut; Dr. Arthur T. McCormack, Kentucky; Dr. Joseph Rilus Eastman, Indiana; Dr. John E. Lane, Connecticut; Dr. James A. Hayne, delegate from the

Section on Preventive Medicine and Public Health; Dr. E. Eliot Harris, New York; Dr. Juan C. Nanagas, Philippine Islands; Dr. John P. Lord, Nebraska; Dr. J. Q. Myers, North Carolina; Dr. H. G. Stetson, Massachusetts; Dr. S. E. Lambert, Washington, and Dr. Southgate Leigh, Virginia.

Dr. Charles E. Humiston, Illinois, nominated Dr. J. W. Van Derslice, Illinois, for Trustee.

Dr. Van Derslice rose to a question of personal privilege and asked that Dr. Billings alone be considered in nomination and moved that nominations be closed, that the rules be suspended, and that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. Billings, who was declared duly elected.

Dr. C. E. Mongan, Massachusetts, nominated Dr. Frederic E. Sondern, New York, to succeed Dr. Wendell C. Phillips, New York, as Trustees for three years.

Dr. William F. Campbell, New York, nominated Dr. Wendell C. Phillips, New York, as Trustee to succeed himself.

The nomination of Dr. Sondern was seconded by Dr. Thomas C. Chalmers, New York; Dr. A. W. Hornbogen, Michigan; Dr. Charles J. Whalen, Illinois; Dr. Joseph A. Pettit, Oregon; Dr. James F. Rooney, New York; Dr. Arthur J. Bedell, New York; Dr. H. P. Beirne, Illinois; Dr. J. D. Brook, Michigan, and Dr. Edward Livingston Hunt, New York.

The nomination of Dr. Phillips was seconded by Dr. John E. Lane, Connecticut; Dr. Thomas H. Halsted, New York; Dr. Arthur T. McCormack, Kentucky; Dr. Grover Wende, New York; Dr. S. L. Baysinger, Missouri; Dr. Walter R. Steiner, Connecticut; Dr. R. E. Schlueter, Missouri; Dr. H. G. Stetson, Massachusetts, and Dr. E. Eliot Harris, New York.

Dr. Wilmer Krusen, Pennsylvania, moved that the House proceed to ballot, which was seconded by Dr. R. E. Schlueter, Missouri, and carried.

There were 111 votes cast, of which Dr. Phillips received 62, and Dr. Sondern 49.

Dr. Sondern moved that the election of Dr. Phillips be made unanimous.

Seconded and carried.

Dr. J. W. Bell, Minnesota, nominated Dr. Thomas McDavitt, Minnesota, as a Trustee for the term of three years to succeed himself.

The nomination was seconded by Dr. R. L. Green, Illinois; Dr. A. W. Hornbogen, Michigan; Dr. E. Eliot Harris, New York; Dr. D. E. Sullivan, New Hampshire, and Dr. U. D. Jones, Texas.

It was moved and seconded that the rules be suspended, and that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. McDavitt, who was declared duly elected.

The Speaker stated that the next in order was nominations for standing committees by the President and their confirmation by the House of Delegates.

President Work placed in nomination as a member of the Council on Health and Public Instruction Dr. Victor C. Vaughan, Michigan, to succeed himself, his term to end in 1926.

On the Council of Medical Education and Hospitals to succeed Dr. William D. Haggard, he nominated Dr. S. W. Welch, Alabama, whose term is to end in 1926; also to succeed Dr. M. W. Ireland, who was appointed ad interim, he nominated Surgeon-General Ireland to succeed himself for the term ending 1924.

As a member of the Council on Scientific Assembly to succeed Dr. John E. Lane, Connecticut, he nominated Dr. Lane to succeed himself, his term to end in 1926.

As a member of the Judicial Council to succeed Dr. H. A. Black, Colorado, who declined reappointment, he nominated Dr. J. N. Hall, Colorado.

On motion, duly seconded and carried, these nominations were confirmed by the House of Delegates.

President Work stated that it might develop a little later that he would be asked to name a committee to confer with the President of the United States on matters pertaining to public health. He was not prepared to do this at this time, but he asked the permission of the House to name a committee of five for a conference at the proper time, if requested to cooperate in this direction.

Dr. Arthur T. McCormack, Kentucky, moved that authority be granted President Work to appoint such a committee on conference with the President of the United States when it becomes necessary.

Seconded and carried.

The Secretary stated that he had received a communication from the Section on Obstetrics, Gynecology and Abdominal Surgery, requesting the election to honorary fellowship of Dr. W. Blair Bell, Liverpool, England.

On motion, which was duly seconded and carried, the Secretary was directed to cast the ballot of the House when the application is approved by the Council on Scientific Assembly.

The Secretary reported those recommended by the Section on Pharmacology and Therapeutics and by the Section on Pathology and Physiology for Associate Fellowship.

On motion, which was duly seconded and carried, the Secretary was directed to cast the ballot of the House in each instance in which the applicant is not objected to by the officers of the constituent association having jurisdiction where the applicant resides.

Place of 1922 Annual Session

The next order of business being the selection of place of next meeting, Dr. Frank Billings, secretary, presented the following supplementary report from the Board of Trustees:

The Board of Trustees has received invitations from a number of cities that the next Annual Session of this Association shall be held in these respective cities. The invitation from the Missouri State Medical Association and from the St. Louis City Medical Society, supplemented by invitations from civic bodies and civil officers, gives the most definite promises of support and cooperation in arranging for the 1922 Annual Session. Your Board of Trustees has in its possession written assurance that the Association will be in position to arrange for an Annual Session to be held in St. Louis in a manner which should be satisfactory to the officers of the Association and the Fellows of the Scientific Assembly.

In view of the foregoing, the Board of Trustees recommends that the House of Delegates select St. Louis as a place for the next Annual Session, and that the time for holding the Annual Session be left for the Board of Trustees to determine.

Dr. R. E. Schlueter, Missouri, moved that the recommendation of the Board of Trustees be adopted.

Seconded by Dr. C. R. Woodson, Missouri, and carried.

Supplementary Report of Judicial Council

The Secretary presented the following supplementary report from the Judicial Council:

The Judicial Council approves the application for Associate Fellowship in the Scientific Assembly submitted by Dr. Ross Bert Taylor, Timmins, Ont., Canada.

It was moved and seconded that the report be adopted and that Dr. Taylor be elected an Associate Fellow. Carried.

Dr. W. S. Rankin, North Carolina, at the request of Dr. Victor C. Vaughan, presented the following resolution:

WHEREAS, Reproach has been brought upon the medical profession by some of its members who have misused the law which permits the prescribing of alcohol, therefore, be it

Resolved, That the American Medical Association now expresses its disapproval of the acceptance by a small minority of the profession of the position of being purveyors of alcoholic beverages.

Dr. Arthur T. McCormack, Kentucky, moved the adoption of the resolution, which was seconded by Dr. S. W. Welch, Alabama, and carried.

Report of the Committee of the Whole

The Speaker called for the report of the Committee of the Whole.

The Chairman of the Committee of the Whole stated that the committee had deliberated on the questions submitted to

it, and the report would be presented by the Secretary of the Association, who acted as clerk of the committee.

The Committee of the Whole recommends that the House of Delegates adopt the supplementary report of the Committee on Legislation and Public Relations in the following amended form:

SUPPLEMENTARY REPORT OF THE COMMITTEE ON LEGISLATION AND PUBLIC RELATIONS AS AMENDED IN THE COMMITTEE OF THE WHOLE

The Committee on Legislation and Public Relations desires to heartily commend the Council on Health and Public Instruction for the breadth of scope and painstaking character of its work during the past year as shown by its report, and recommends the careful reading and study of the latter by the members of the House of Delegates.

The committee especially indorses certain specific recommendations of the Council as follows:

1. That the American Medical Association recommends that general hospitals in all parts of the United States should provide separate wards or separate rooms for the care of pulmonary tuberculosis patients, and that such patients be never denied admission, at least in emergency and for temporary periods, because of the character of the disease from which they are suffering. The committee believes that the passage of this recommendation will tend to assuage the public fears, as it is well established that properly conducted wards or hospitals for the tuberculous constitute no source of contagion even in thickly settled communities.

2. That the venereal disease control movement cannot reach full effectiveness without the intelligent and sympathetic cooperation of the medical profession, and that this cooperation should include the rapid extension of teaching facilities for the use of medical students whereby the knowledge of the medical, social and public health aspects of these diseases may be taught by actual clinical contact with patients in the clinic, under the direction of qualified teachers.

3. The committee commends the expression of opinion of the Council in regard to the desirability of the elementary teaching of the nature and transmission of communicable diseases in the public schools; that the teachers in our public schools should have the opportunity of knowing about the same by the requiring of a course in the transmission of disease in normal schools and in schools of education in our universities; it approves of the suggestion of the Council to foster the formation of special societies consisting of physicians and laymen interested in public health matters to study subjects of public health and sanitation; and, further, its efforts to improve the practice of medicine in rural communities, and recommends the continuance of the Council's work along these lines.

4. The committee approves of the request of the Council that, in view of the multiplication and activities of the various cults and sects of the present times, it be empowered to appoint a committee to study the entire question of sects in medicine and the proper attiutde which the American Medical Association should adopt regarding them.

5. In view of the frequently recurring antivaccination agitation, the Council has requested that it be authorized to appoint a committee to survey the entire subject of vaccination and to prepare suitable material for educating the public on this question.

This request is recommended for approval.

6. The Council has found that there are so many questions involving the organization of the public for health work that it desires to call a representative gathering in Chicago, to which shall be invited the general officers of the American Medical Association; the presidents and secretaries of the constituent state associations; the presidents and secretaries of county and local medical organizations; the presidents and secretaries of the various voluntary state and national public health organizations, and the health officers of the various states, members of the House of Delegates and others interested, for the discussion of the present situation with a view to formulating a plan for the organization of the public for health work.

The committee approves this report.

7. The committee commends the report of the Subcommittee on Health Problems in the Public Schools, and recommends the continuance of this committee.

8. Lastly, the committee commends the report of the Subcommittee on Narcotic Drugs and recommends its continuance.

MEMORIAL INTRODUCED BY PRESIDENT HUBERT WORK

To the President of the United States—Greeting.

The American Medical Association through its executive body, the House of Delegates, desires to express its appreciation of your general attitude toward Public Welfare and your evident desire to coordinate interrelated departmental activities and functions.

The House of Delegates pledges the support of the American Medical Association in working out the details looking toward the culmination of such worthy purposes as would increase the efficiency of public health measures and insure the wisest supervision under *medical* direction in those departments requiring medical knowledge.

The committee has very carefully considered the various resolutions offered in regard to the state's relation to medicine, including the resolution in response to the memorial offered by the State and Provincial Health authorities of North America, and the resolutions offered by the State Medical Societies of New York, Illinois, Michigan and New Hampshire, and by Dr. Rankin, as a supplementary report from the Council on Health and Public Instruction, by Dr. Delphey of New York, and by Dr. Rooney, defining state medicine, has given free hearing and careful attention to those interested, and has carefully considered same and begs to report as a substitute for all resolutions the following:

Resolved, By the House of Delegates of the American Medical Association that it approves and endorses all proper activities and policies of state and federal governments directed to the prevention of disease and the preservation of the public health.

J. H. J. UPHAM, Chairman,
JOHN W. BELL, S. E. LAMBERT,
H. G. STETSON, W. H. SEEMANN, Secretary.

At the conclusion of the report, Dr. E. Eliot Harris, New York, moved that the report as amended be adopted.

Seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

Resolutions of Sympathy

The Secretary asked unanimous consent, which was granted, to present the following resolution:

Resolved, That the House of Delegates of the American Medical Association express their extreme sorrow and deep sympathy to the family and relatives at the untimely death of Col. Frederick W. Galbraith, Jr., and that we sympathize with the American Legion in the loss of so great a leader at a time when he is so much needed, and we desire that a copy of these resolutions be sent to his family and to the American Legion.

Dr. Arthur T. McCormack moved that the resolution be adopted by a rising vote.

Seconded and unanimously carried.

Thanks for Hospitality at Boston

Dr. Arthur T. McCormack, Kentucky, asked unanimous consent, which was granted, to present the following resolution of thanks:

Resolved, That the thanks of the American Medical Association be extended to the Massachusetts State Medical Society, the organized profession of Boston, to the Governor of the State, to the Mayor of Boston, and to the citizens of Boston, especially its ladies, for the cordial hospitality extended during this annual session; and also that our thanks be extended to the daily press of the city for the full and fair reports of its deliberations.

Seconded by Dr. Thomas C. Chalmers, New York, and carried.

Report of Committee on Reapportionment

Article 5, Section 3, of the Constitution provides: "The total voting membership of the House of Delegates shall not exceed 150. The medical departments of the Army and of the Navy, and the United States Public Health Service and the scientific sections shall each be entitled to one delegate, and the remainder shall be apportioned among the Con-

stituent Associations in proportion to their actual active membership. . . ."

There are fifteen sections in the Scientific Assembly, so that after providing for these and three medical departments of the Federal Government, there remain 132 delegates who may be apportioned to the Constituent Associations in proportion to their membership as recorded in the office of the Secretary of the Association on April 1, 1921. By making provision so that each Constituent Association shall be entitled to at least one delegate and by providing further that there shall be assigned to each Constituent Association a delegate for each 850 members or fraction thereof, there will be apportioned to the several Constituent Associations 130 delegates, making a total in accordance with the proposed apportionment of 148 voting delegates to be seated in the House during the sessions of 1922, 1923 and 1924.

The number of delegates to which each state is entitled in accordance with this ratio is shown in the accompanying table.

APPORTIONMENT OF DELEGATES

STATE	Membership of State Association, April 1, 1921	Apportionment	Apportionment Based on One Delegate to Every 850 and Fraction	Increase	Decrease
		Present			
Alabama	1,664	3	2	..	1
Arizona	245	1	1	..	..
Arkansas	1,196	2	2	..	..
California	3,332	3	4	1	..
Colorado	858	2	2	..	..
Connecticut	1,018	2	2	..	..
Delaware	130	1	1	..	..
District of Columbia	367	1	1	..	..
Florida	378	1	1	..	..
Georgia	1,225	2	2	..	..
Idaho	225	1	1	..	..
Illinois	7,059	8	9	1	..
Indiana	2,277	3	3	..	..
Iowa	2,280	3	3	..	..
Kansas	1,586	3	2	..	1
Kentucky	2,130	3	3	..	..
Louisiana	1,082	2	2	..	..
Maine	669	1	1	..	..
Maryland	1,276	2	2	..	..
Massachusetts	4,028	5	5	..	..
Michigan	2,819	4	4	..	..
Minnesota	1,510	2	2	..	..
Mississippi	483	1	1	..	..
Missouri	3,386	5	4	..	1
Montana	382	1	1	..	..
Nebraska	1,186	2	2	..	..
Nevada	93	1	1	..	..
New Hampshire	522	1	1	..	..
New Jersey	1,821	3	3	..	..
New Mexico	273	1	1	..	..
New York	8,819	11	11	..	..
North Carolina	1,004	2	2	..	..
North Dakota	455	1	1	..	..
Ohio	4,558	6	6	..	..
Oklahoma	1,301	2	2	..	..
Oregon	616	1	1	..	..
Pennsylvania	7,392	9	9	..	..
Rhode Island	330	1	1	..	..
South Carolina	632	1	1	..	..
South Dakota	398	1	1	..	..
Tennessee	1,700	2	3	1	..
Texas	3,551	5	5	..	..
Utah	239	1	1	..	..
Vermont	380	1	1	..	..
Virginia	1,899	3	3	..	..
Washington	989	2	2	..	..
West Virginia	1,106	2	2	..	..
Wisconsin	1,952	3	3	..	..
Wyoming	98	1	1	..	..
Alaska	.....	0	1	1	..
Hawaii	81	1	1	..	..
Isthmian Canal Zone	74	1	1	..	..
Philippine Islands	158	1	1	..	..
Porto Rico	115	1	1	..	..
Government Services	.....	3	3	..	..
Sections	.....	15	15	..	..
Total	.....	147	148	..	..

The Speaker thanked the members of the House of Delegates for their courtesy to him and for their close attention to the business as it came before the House.

As there was no further business to come before the meeting, on motion, which was duly seconded and carried, the House of Delegates adjourned.

ADDENDUM

Supplement to the Report of the Council on Medical Education and Hospitals

REMARKS BY DR. ARTHUR DEAN BEVAN, ILLINOIS, IN CONNECTION WITH THE PRESENTATION OF THE REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

It will be impossible in the time allotted to read the report of the Council, but I hope to supplement the report and to put before you some important matters which have engaged the attention of the Council during the last year.

The beginning of the work of the Council back in 1904 was an attempt to standardize medical colleges, and for many years we devoted almost all of our time to that subject. Gradually, however, we came to understand that the mere standardizing of medical colleges was not sufficient, and that the problem was a much larger one. After we had secured as good standards of medical education in this country as existed in any countries of the world, we found that our task was not finished but had grown larger.

For instance, we had advocated the intern year in 1906, but soon found it was already generally adopted either by the students themselves or later by the state boards or by medical schools. We also found that the training of the intern gradually led into the question of facilities and character of work done in hospitals so that last year the House of Delegates changed the name of the Council to that of the Council on Medical Education and Hospitals. As the work proceeded, we found that it was necessary to take up not only the question of undergraduate medical education, but also that of postgraduate work and of the graduate work required in the training of specialists. Our problem has grown from the rather simple matter of standardizing medical schools to a problem which involves the training of men for medicine, and the development of plants in which men can practice medicine. It is a problem that involves the training not only of general practitioners, but also of specialists.

As one of the important features of the last Annual Conference, which is now the Annual Congress on Medical Education, Licensure and Hospitals, the question of the training of specialists was presented. The report of that conference includes a very interesting discussion on the training of specialists.

The Council appointed fifteen committees of nine men each in the laboratory and clinical branches. These committees came to the conclusion that, in addition to the training of the undergraduate, the time had arrived when the organized profession of this country should take up seriously the problem of the proper training of the specialist, and there is a general agreement that this proper training should mean at least three years of training in a well organized clinic in the particular field in which the man or woman intends to enter. On the basis of this plan, which has been carefully worked out, we shall ask twenty or more universities with strong medical departments seriously to consider the problem of developing postgraduate and graduate schools for the proper training of specialists in the various fields in addition to providing courses for practitioners. Our conception is that when that has been accomplished the state boards will eventually recognize the importance of making a definite requirement for the training of the specialist and that, before a man professes to practice a specialty and poses as a specialist, he shall be required to give evidence that he has pursued a thoroughly sound scheme of development which makes him a safe practitioner in that particular field. The Council believes, also, that the time has arrived when we must reorganize our scheme of undergraduate medical education so as to give the undergraduate a broader and simpler training in medicine which will make him a better general practitioner. That means simplifying the course under three clinical heads—medicine and surgery and obstetrics. We must make the effort to train the man who is going into a community to do general practice in the broadest and best possible way. We feel, moreover, that the broad

general practitioner is by all odds the most important man in medicine. Numerically, he should be 90 per cent. of the medical profession; this broadly trained man is the man who can take better care of the bulk of the people of a community than can any group of specialists, no matter how competent.

I think the time has arrived, and it should be emphasized by the organized profession of this country, when we should look forward to developing broadly trained men as general practitioners, and in addition to develop 10 or possibly 15 per cent. of men who can later take up special practice. We cannot be satisfied with simply training men; we must also provide medical plants in which these men can practice medicine. We must develop well-equipped hospitals which will bring the benefits of the practice of modern scientific medicine to everybody in all communities. This is not an idealistic thing at all. We have gone pretty well ahead with our plan of educating men, but we have come to a point where, in addition, we must provide plants. We must provide a plan by which hospitals can be utilized to produce certain results. This is a community problem and it must be taken hold of by every county society in our organization. It means that every county society must look over the field in its community and determine the requirements of medicine in that community; that there must be the necessary plants provided in one way or another, not by any single specific plan. You cannot practice medicine as it was practiced forty years ago with the equipment that a man could carry in his saddle bags or in a buggy. Medicine today requires an elaborate plant, and that means a hospital with the necessary laboratories and equipment which necessarily becomes a center not only of the practice of medicine but also of preventive medicine.

The thought that has arisen in my own mind is that in some way the House of Delegates should bring to the attention of every county society in this country the importance not only of holding society meetings and discussing scientific problems, but also of outlining a working plan in their own community which will make it possible to bring to the rich and poor alike the benefits of modern medicine. If the medical profession does not organize and begin to develop a plan to carry on this work, it will come from some outside agency interested in the question of state medicine, as it is coming in some other countries. This matter can be handled better by the medical profession itself than by any other agency, and I would like to ask that the House of Delegates should impress upon the component societies of the American Medical Association the importance of beginning this year with the practical problem not only of developing and training the man, but also of analyzing the medical needs and securing a practical plan and of seeing that this work is carried out and that the initiative is taken by the medical profession itself.

Confirming what I have said, I would like to call the attention of the members of the House to the Hospital Number of THE JOURNAL of the American Medical Association which shows the hospital supply of the United States. In reading it you will find that 56 per cent. of the counties of the United States have no medical plant in the way of a hospital. In other words, 56 per cent. of the counties of the United States have no hospitals, and a hospital is undoubtedly an essential medical factor in the practice of modern medicine.

I want to call your attention to the classification that the Council is still employing in connection with medical schools, that is, the A B C classification, which is a simple, practical scheme. An A grade school is simply one that is doing sufficiently good work that the Council can recommend to the state boards of the country that they accept the graduates from such a school for examination for licensure. The C grade school is simply one whose graduates the Council cannot so recommend. The B grade schools are those in the doubtful class.

The Council has been criticized somewhat for this classification by some educational agencies. They have said to us, "You have Harvard and Pennsylvania at one end of the scale, and some very mediocre schools at the other end of your Class A group." That is very true, and there is a great difference between the best and the poorest of our Class A schools; but we are well satisfied with the classification. We thought at one time we might introduce an A 1 class or an A plus class which would include probably twenty-five schools, but after careful consideration we have left the classification as it is because it is absolutely sound and simple, and it stands for something very definite—for all medical schools that have reached a minimum standard of development and are, therefore, recommended to state licensing boards.

There is one important matter which in a way I hesitate to speak to you about. It is a matter that we have been considering more or less for the last ten years with a great deal of interest. I refer to the matter of outside interference with medical education, which I think must be very frankly put before you at this time with the request that definite action be taken later. I desire to refer to a disturbing influence which has been introduced into medical education in the last few years, and which has become in a way a menace to our progress along sound lines. I refer to the introduction of a scheme of organization of the faculties of our medical colleges, which has been introduced by the great educational foundations, and by some of the state universities.

I shall refer especially to the plan of all-time clinical instruction. This plan did not originate in the medical profession. It originated outside the medical profession, and unfortunately it has been forced upon the situation largely by money. It is a subsidized plan which has been presented to universities with the statement that they would be given one or two millions of dollars or more, provided they would adopt the all-time clinical plan in their scheme of organization. To be sure, the originators of the plan have presented it as an experiment, but it has not been a fair experiment. A scientific experiment necessarily requires a control. There has been no control here. If, on the contrary, the great foundations would take three schools and give each of them two millions or five millions of dollars and put them on the all-time clinical plan, and another three schools of the same caliber and give each of them the same amount of money and allow them to develop under some plan which has been the outcome of the experience of medical educators the world over, the plan that one might refer to as the Trousseau plan, the Billroth plan, the Osler plan, a plan that has developed from the practical experience of medical educators, it would then be a fair experiment. So far the plan has been introduced at Johns Hopkins and Yale, at Washington University in St. Louis, and it has been adopted by the University of Chicago, and by Columbia University. I believe also the new university of Rochester contemplates adopting it, and the plan in a somewhat modified way has been adopted by some of the state universities, notably the University of Michigan.

This plan has not been a success. I do not hesitate to say that it has been a failure. It has not the support of the medical profession. I fail to find that it has anywhere the support of the great teachers of medicine, or the great teachers of surgery, or the great teachers of the medical and surgical specialties. The plan has been backed largely by men who are not medical men, and by men, who, if they are medical men, are connected with laboratories. It is a very expensive plan. Its cost is out of all proportion to the results that are obtained in medical education.

I think the time has arrived when we should plainly analyze this situation without any partisanship and attempt to find the best plan, and that best plan when found should be adopted by the medical profession. We should make it very clear to the outside agencies who are urging and subsidizing their special plans that the organized medical profession cannot adopt any plan of medical education that is not in keeping with the honor and dignity and best interest of the medical profession.

One weakness of the all-time clinical plan is the grotesque proposition that the all-time clinician in one of these schools is to accept fees from well-to-do patients and the rich, but that these fees are not to go to the individual who renders the service, but to the institution. This becomes in the hands of the great foundations, even though an experiment, a

menace in this way; it has impressed the boards of trustees of universities who are not familiar with medical practice and with medical education as the plan to adopt merely because it is urged and endorsed by the great educational foundations.

It has been applied in a hybrid form recently in the University of Michigan with disastrous effects. The University of Michigan is planning to enter the field of medical practice. It contemplates building a hospital of 600 or 1,200 beds, and putting salaried men at the heads of the clinical departments in the institution. These salaried men are to take care not only of the poor, but also of the well-to-do and rich. In other words, they are distinctly entering into competition with the medical men of the state. It is not in the best interests of medical education. The time has come when the medical profession should take a definite position and say that this plan is not sound, and that it is not logical; that it is not in the best interests of the medical profession and that it cannot be accepted.

You want to remember, Mr. Speaker and gentlemen of the House of Delegates, that medical education has made very great advances not because of any outside influence, but because of the work done by the medical men themselves.

I have no feeling against the agencies that have introduced this innovation, but I am loyal to the best interests of medical education and to the best interests of the medical profession itself. The time has come when we should frankly analyze the whole situation and attempt to find, independently of anything else, the soundest and the best plan of organization of our medical schools.

In the development of the medical education of the future, the great medical profession will be little influenced by subsidized plans urged by endowed propaganda from outside agencies, but will be controlled by the experience and advice of the great laboratory workers, the great clinicians, the great teachers who are on the firing line of medical progress and are in touch with the needs of medical education and medical practice.

THE SCIENTIFIC ASSEMBLY

THE OPENING GENERAL MEETING

Tuesday Evening, June 7

The opening meeting of the Association was held at the Boston Opera House, and was called to order at 8:45 by the President, William C. Braisted, Washington, D. C.

Rev. George A. Gordon, D.D., Boston, delivered the invocation.

Addresses of Welcome

President Braisted introduced the Hon. Channing H. Cox, governor of Massachusetts, who delivered an address of welcome on behalf of the people of the state.

ADDRESS OF WELCOME BY GOVERNOR COX

Mr. President, and Members of the American Medical Association, Ladies and Gentlemen: Among the worthiest citizens of Massachusetts are 6,000 men and women licensed to practice medicine. To the layman it would seem impossible for a man to achieve real success as a physician, a success which brings satisfaction and contentment to him, unless such a man be of sterling character and of the highest ideals. Massachusetts has enjoyed the services of thousands and thousands of good physicians who have been successful and who have contributed in generous measure to the welfare and well being of their fellow men. They have not been selfish. If one were concerned merely with money making, one's usefulness as a physician would be seriously impaired.

Recently, I asked my physician what he supposed was the largest income received from professional work by any Boston physician. If he were correct in his judgment, there are many lawyers, many engineers, and men in other professions who receive far larger rewards from their practice than physicians, to say nothing of business men by the hundreds. The rewards of a physician cannot be measured in dollars and cents. To their credit, good physicians have come to feel that it is a part of their professional duty to stand ready to render service without hope of reward, and to give in generous measure their skill for the benefit of suffering humanity.

Massachusetts holds her physicians in high esteem. The people of Massachusetts rejoice in a long line of eminent physicians who have lived and worked hard, who have been alert to acquire knowledge, who have made tremendous and interesting contributions to the science of medicine, and who have counted it a great joy to teach young men desirous of entering the profession.

The people of Massachusetts glory in their medical schools and splendid hospitals. They gladly acknowledge their debt to the men of the medical profession who have been leaders in establishing a system of admirable state institutions for the care and treatment of the unfortunate sufferers in body and mind. Because of the history which the physicians of Massachusetts have written and because the physicians of today are doing their part worthily, the commonwealth is glad to welcome their brother physicians as they come to Boston for the annual session of the American Medical Association. We realize that whatever progress is made in medicine or surgery results in the alleviation of human suffering; it inures to the benefit of mankind, and we therefore hope that the meeting of this Association may bring great pleasure to you, as we are confident that your deliberations will be of lasting benefit to us.

The tendency of men and women to leave the rural districts and to congregate in great numbers in our cities has brought many serious economic problems. It is coming to be recognized that this herding of people in congested areas, leaving country communities sparsely settled, presents a problem which concerns the physician.

The medical schools of today are increasing their standards, and are in danger perhaps of creating too many specialists in medicine, so that the highly trained men are not willing to locate in a community where lack of hospitals, laboratories, nurses and other facilities prevents them from keeping up the character of work which they have been trained to do. There is going to be an unequal distribution of physicians, and the rural sections suffer therefrom.

Within a year a beautiful Massachusetts town, which had no resident physician, advertised its willingness to pay a subsidy to a competent doctor who would locate there. Whether the solution of this difficulty lies in medical schools which will send out inferior men, whether it be in some form of state aid, insurance or lodge practice, or whether it be in community schools thoroughly up to date, with all modern equipment, or whether the solution is to be in other ways, those of us who are thinking in terms of the whole state look to the members of this great convention for leadership.

Massachusetts welcomes you not only as physicians but as representative citizens from other states, as men capable of molding a healthy public opinion.

You have come to us as we are celebrating the three hundredth anniversary of the landing of the Pilgrims. We are all grateful for the sacrifices of those sturdy men and women who laid the foundations of a new civilization. We hope we have something of their faith in ourselves and in our families. We believe, as they did, that it is better for an individual to do the things which he is fitted to do rather than for the state to do them for him.

After your visit with us, which we trust may bring real pleasure to you, may you return to your homes convinced that here in Massachusetts we have kept the faith of the Fathers; that we believe today there is great opportunity for those who deserve it as in any generation of the past, and that with you we stand ready at any cost to defend the free institutions of America. (Applause.)

ADDRESS OF WELCOME BY MAYOR PETERS

Hon Andrew J. Peters, mayor of Boston, was introduced, and delivered an address of welcome on behalf of the people of the city, saying:

Mr. President, Members of the American Medical Association, Ladies and Gentlemen: It is indeed a pleasure to stand here this evening and welcome you to Boston in the name of our citizens. I am here to speak for 800,000 people, the whole population of Boston, and to bid you welcome and Godspeed in your work and appreciation of your patients for all that you have done for them. You helped to bring us into the world, and now you are helping to keep us here and are helping to make life as bright and pleasant as possible while we are here. We appreciate that and wish to express to you our deepest gratitude. One reason is that our physicians have always been with us in every public movement in Boston, from the days of that gallant patriot, Dr. Joseph Warren, who refused the command of the troops at Bunker Hill, and then served and met his death there in a private capacity for his country; and that high ideal of service has distinguished the physicians of our city and state ever since that memorable day. It is that type of ideal service rendered to the community that has made the physician in Boston an outstanding factor unequaled in any other city in our country.

We have many institutions here that are administered for the benefit and health of the people. I will not describe them to you. We hope you will visit them while you are here. There are better guides than myself who can point out to you with pride and professional knowledge the points of our great institutions which would most appeal to you. We have many members of your profession connected with the city government who are rendering a high type of service to the citizens of Boston, and among them Dr. Woodward, Dr. Minot, and many others who would be delighted to throw open to you the doors of our municipal hospitals and of our city health department. They would tell you how the city of Boston is expending this year $4,000,000 appropriated for helping public health in the city. (Applause.)

There is one subject which even a layman may touch on. Our health department is busy just now taking up measures to keep out the bubonic plague. May I call your attention to a far greater scourge from which Europe has just had a visitation. It carried off directly ten millions of the flower of the race and indirectly may have destroyed the lives of twice as many more. It selected the most fit, the strong, as Nature in her wisdom seldom does, and it has ruined the best of the stock of the future races.

We are told that we must prepare today for a new scourge at some day in the future of a like nature. Weapon makers are now preparing for it. Teachers of destiny are urging it every day in the press. The old code of chivalry is brushed aside, and henceforth no one will be safe. The object will be extermination of the race and the earth will be torn into a shamble. I shall not attempt to paint the horrors of this prospect. You gentlemen know better than any one else what you can do to forestall this impending catastrophe. I would suggest that you begin by reporting your protest against it. It is your particular enemy. It works in a spirit directly opposite to yours. It seeks to undo all that you accomplish for the human race. I am sure, if you will use your best efforts in opposition to this movement, ninety-nine out of every hundred of the people in America, both men and women alike, will support you.

The city of Boston would be very proud if she could add to the epoch-making event, the discovery of the use of ether for surgical operations, the first step in any form you think best which can be taken by the physicians of America to bring mankind back to a spirit of mutual good will and plain common sense rather than the present temper of the people at large. We have a monument erected here in honor of Dr. Morton, as many of you know, and I wish we could have a Peace monument erected to the American Medical Association. (Applause.)

We welcome you here most heartily in the spirit of our people, and it is unnecessary for me to tell you that the members of your profession in Boston will show you everything we have here and tell you of the opportunities which we are having for increasing the medical service of the people. We welcome you in that high spirit of idealism, of sacrifice, of progress, which your profession has ever stood for. We welcome you to Boston and hope that your visit here will give you as much pleasure as it gives us. (Applause.)

ADDRESS OF THE PRESIDENT

President Braisted introduced as the President of the Association Dr. Hubert Work, Pueblo, Colo., who delivered his address, which was published in THE JOURNAL, June 11, p. 1623.

REGISTRATION AT BOSTON

The total registration at the Boston Session was 5,506. Below are given two summmaries, one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,521
Surgery, General and Abdominal	1,114
Obstetrics, Gynecology and Abdominal Surgery	367
Ophthalmology	378
Laryngology, Otology and Rhinology	287
Diseases of Children	311
Pharmacology and Therapeutics	41
Pathology and Physiology	86
Stomatology	49
Nervous and Mental Diseases	198
Dermatology and Syphilology	127
Preventive Medicine and Public Health	225
Urology	184
Orthopedic Surgery	194
Gastro-Enterology and Proctology	124
More than one Section, or no Section indicated	300
Total	5,506

REGISTRATION BY STATES

	Number		Number
Alabama	16	Nevada	1
Arizona	7	New Hampshire	143
Arkansas	12	New Jersey	106
California	99	New Mexico	1
Colorado	41	New York	654
Connecticut	142	North Carolina	28
Delaware	9	North Dakota	7
District of Columbia	95	Ohio	211
Florida	18	Oklahoma	20
Georgia	20	Oregon	18
Idaho	1	Pennsylvana	430
Illinois	224	Rhode Island	173
Indiana	107	South Carolina	22
Iowa	37	South Dakota	2
Kansas	17	Tennessee	48
Kentucky	33	Texas	41
Louisiana	29	Utah	2
Maine	131	Vermont	54
Maryland	71	Virginia	49
Massachusetts	1,888	Washington	20
Michigan	112	West Virginia	21
Minnesota	69	Wisconsin	42
Mississippi	11	Wyoming	1
Missouri	83	Guests	104
Montana	6		
Nebraska	30	Total	5,506

REPORT OF THE COMMITTEE ON AWARDS

The committee appointed to judge the Scientific Exhibit reports the following awards:

A gold medal to Dr. Kenneth M. Lynch of the Department of Pathology of the Medical College of the State of South Carolina, for his exhibit of photographs and microscopic preparations illustrating investigation of ulcerative granulomata.

A certificate of merit to Dr. V. H. Kazanjian of the Harvard Dental School for his exhibit of plaster masks, casts and photographs of war injuries to the face and jaws.

A certificate of merit to Drs. Mendel, Osborne and Bailey of the Connecticut Agricultural Experiment Station for their exhibit illustrating the effect of different qualities of protein upon growth.

The committee also desires to call attention to the excellence of the exhibits of the work of the American Society for the Control of Cancer and of the American Social Hygiene Association as examples of model methods of education.

W. B. CANNON,
G. W. MCCOY.

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SATURDAY, JUNE 18, 1921

THE INFLUENCE OF HEREDITY IN TUBERCULOSIS

The exact significance of heredity in determining the occurrence of tuberculosis still remains a completely unsolved problem, despite an enormous amount of speculation, some careful study, and a few elaborate statistical investigations. As yet, we have had little evidence from well controlled experimental studies in animals, for experimental studies on heredity, especially with mammalian material, require such prolonged and difficult work, to say nothing of large financial resources, that few have had the courage and the opportunity to undertake them. In cancer we have had not a little experimental investigation to add to and improve on the unsatisfactory evidence available from human statistics, but hitherto virtually nothing of the sort has been available in tuberculosis. Only recently has a start been made in the systematic study of the effect of heredity on the resistance of guinea-pigs to tuberculosis, through cooperation of Dr. Sewell Wright of the Bureau of Animal Industry, where experiments on the effects of inbreeding of guinea-pigs have been carried on for fifteen years, and Dr. Paul Lewis [1] of the Phipps Institute of Philadelphia.

As to the human evidence concerning the inheritance of power to resist tuberculosis, Wright and Lewis recall that in the prebacteriologic era physicians were generally of the opinion that heredity played a large part in resistance or susceptibility to tuberculosis. Following Koch's demonstration of the part played by *Bacillus tuberculosis* in the etiology of the disease, it was recognized that the hereditary influences might be only apparent; for if the disease became established in any family there was evidently an immeasurably increased chance of intrafamilial infection, and as a consequence of this uncertainty of interpretation it has become customary to regard hereditary influences as a negligible factor.

Recently Cummins [2] has called attention to the lack of evidence of the existence of an hereditary predisposition to human tuberculosis, since in communities in which tuberculosis is rare, the members should not be susceptible to tuberculosis when coming in contact with tuberculous communities, if susceptibility depends on inheritance; yet the opposite is true. Likewise, if an inherited tuberculous diathesis plays a part in determining infection, the disease should be least severe among people whose ancestors have not had tuberculosis, which is quite the reverse from the facts. On the other hand, we may argue from the same facts, as does Pearson,[3] that in such nontuberculous communities there will have been no weeding out of the strains susceptible to tuberculosis, which may be assumed to take place in tuberculous communities and thus lead to the production of a population of selected resistance.

Pearson and Goring have compared the correlation between parent and offspring, in incidence of the disease, with that between husband and wife. The effects of unfavorable conditions and the chances of infection were assumed to be about as great in one case as in the other, while heredity would be a common factor only in the first case. Pearson dealt with upper class families of which one member was being treated in a certain sanatorium. The correlation between parent and offspring came out about 0.50, in the usual scale, in which 1.00 is perfect correlation. This correlation is about the same as that between parent and offspring in characters such as height, weight and eye color, which are largely or wholly determined by heredity. The correlation between husband and wife was only 0.24, and even much of this the author found reason for attributing to assortative marriage. Goring's study was made with the families of British convicts. He also found a correlation of about 0.50 between parent and offspring, but no correlation (—0.01) between husband and wife. Therefore, both of these observers consider that they have demonstrated a distinct hereditary influence in determining human tuberculosis. However, in these statistical studies lies a defect because of the fact that there is probably much greater chance of infection of a child by a tuberculous parent than there is for infection of an adult (husband and wife) exposed to the same sources of bacteria, in view of what we now know concerning the relative resistance of the uninfected child and of the adult with healed or latent tuberculosis.

In their studies with infected guinea-pigs of known ancestry, long closely inbred, Wright and Lewis noted in one family a notably greater resistance to tuberculosis, as indicated by length of life after inoculation, than any of the other families under observation. This resistance was an inheritable quality, transmitted by either sex in crosses with other inbred families of less resistance. The factors which determine resistance to tuberculosis did not seem to be closely related to other evidences of vigor, such as rate of growth and adult weight, and size of litters. In crosses involving the resistant family with less resistant families, the offspring seemed to be more resistant than even the mem-

1. Lewis, Paul: Am. Naturalist **55**: 20, 1921.
2. Cummins: Internat. J. Pub. Health **1**: 137 (Sept.) 1920. Tuberculosis in Primitive Tribes, and Its Bearing on the Tuberculosis of Primitive Communities, editorial, J. A. M. A. **76**: 246 (Jan. 22) 1921.
3. Pearson, K.: Lancet **2**: 891 (Oct. 30) 1920.

bers of the resistant family itself, indicating the dominance of resistance over susceptibility. The results in respect to resistance to tuberculosis are like those for other inheritable characteristics, as regards the differentiation among families brought out by inbreeding, the improvement resulting from crosses between inbred families, and the independence genetically from other elements of vigor. Hence the inference may be drawn that, so far as these experiments go, heredity may determine to some extent the resistance of a given family to tuberculosis.

Until such time as we have complete vital statistics, including carefully recorded necropsies on all persons who die from whatever cause, there can be no statistical evidence of value concerning the relation of heredity to either cancer or tuberculosis; and, as that near-millenial program seems to be far in the future, we must for the present depend on animal studies. Such cooperative work as that under discussion is a long step in the right direction, and one that should be followed, so far as possible, for the light which it is sure to furnish on one of the most important problems, not only of medicine, but also of sociology.

BACTERIA AND THE TELEPHONE

Early in the history of modern bacteriology, when the ubiquity of bacteria and the harm which certain micro-organisms can do was beginning to be demonstrated, the widespread search for these microscopic enemies became a popular exercise among trained observers. Everywhere about us the newly exploited hidden dangers loomed up; in food and drink, in our clothing and shelter, on the earth and in the air bacteria continued to be discovered. For a time it seemed as though few places were healthful habitations, few environments fit to be called sanitary. Gradually, however, it began to be realized that not all bacteria are baneful. Not a few are veritably beneficent. Furthermore, man is well equipped with a variety of remarkable protective devices to withstand invasion. Natural immunity is something which rarely forsakes us; for in the midst of innumerable unseen foes man usually survives.

Despite the sense of security which has gradually developed among persons living in a bacteria-ridden world, preventive medicine has not allowed mankind to become entirely indifferent toward germs. Sterilization and disinfection brought about by cleanliness and by chemical and mechanical agencies have been introduced into many aspects of everyday life. The public drinking cup has given way to drinking fountains and the individual sanitary cup. The common towel is a rarity in public places. The sealed package has replaced the exposed assortment of food products. Dirty money has been demonstrated to be unsightly rather than infectious. The sputum box has replaced the cuspidor. Air and sunlight are being given a chance to do good.

The human carrier represents a new sort of menace in the struggle against disease. So long as we have reason to fear him, the sources of direct or indirect contact with him must be kept under scrutiny. With this thought in mind we refer to a recent investigation by Saelhof [1] in Chicago on the bacterial content of telephones. It has been frequently asked whether or not they can transmit disease.[2] The late epidemics of respiratory diseases have made the inquiry more pertinent in the case of instruments used daily by thousands of persons in public places. Cultures prepared from the receivers and transmitters of ninety-four representative telephones located in public booths enabled Saelhof to isolate various pathogenic bacteria. One sixth of the instruments habored hemolytic streptococci; diphtheria bacilli were present in 2 per cent. Nearly all of the former were viable. In comparison with the transmitters, the receivers showed very few pathogenic micro-organisms.

This discovery does not represent a serious situation, and one can scarcely believe that the telephone plays an important part in the transmission of disease, as it does of human words. Saelhof conservatively concludes that however slight the danger, the point is worthy of recognition that the telephone is an instrument on which dangerous bacteria are commonly deposited and there continue to live for some time. The source of infected material should be known, and as a possible danger under certain conditions should be given proper consideration. Whether sterilization of the instruments should be practiced to prevent the spread of virulent organisms may be debatable; but the question cannot be overlooked.

THE FATE OF THE LYMPHOCYTES

The life history of the various types of cells that occur in the blood has received comparatively little attention. With respect to the erythrocytes, or red blood cells, there is considerable accord in the belief that they are continually being destroyed and replaced by new representatives; but the duration of life of the red cell has been the subject of considerable debate in recent years. The question is one of interest in connection with the behavior of the erythrocytes in transfusion, among other phenomena.

With respect to the different white cells, even less knowledge is available. Is there a rapid destruction and regeneration of lymphocytes and phagocytes, or are the leukocytes in general long lived in the body? In the case of the lymphocytes, new cells are continually being derived from the adenoid tissue forming the lymphatic gland and the lymph nodules surrounding many of the

1. Saelhof, C. C.: The Bacterial Content of Telephones, with Special Reference to Respiratory Pathogens, Am. J. Hyg. **1**: 234 (March) 1921.
2. Bissell, W. G.: Does the Public Telephone Transmit Disease? Buffalo M. J. **42**: 408, 1902-1903. Allan, F. J.: The Public Telephone Call Office as a Factor in the Spread of Disease, Lancet **1**: 1862, 1908. Tomarkin, E.: Ueber die Gefahren der Uebertragung von Infektionstoffen durch das Telephon und ihre Verhütung, München. med. Wchnschr. **53**: 2435, 1906.

mucous cavities. It is possible that some of the cells pass directly through the capillary walls into the blood stream. By far the greater portion, however, find their way more directly into the lymph sinuses, whence they are carried in the lymph stream through the thoracic duct and lesser channels into the circulation.

Davis and Carlson [1] estimated that many more lymphocytes enter the blood with the lymph in the course of the day than can be found in the blood at any given time. This at once raises the problem as to how the number of these white cells is kept as constant in the blood as it is known normally to be. Bunting and Huston [2] of the University of Wisconsin have logically concluded that as many cells must disappear from the circulation each day as are introduced into it; otherwise one should find not a constant count but an ever increasing accumulation of these cells in the blood stream.

It is conceivable that lymphocytes may be changed soon into some other form of blood cell; but, as the Wisconsin pathologists well note, this possibility is a highly remote one at best. The lymphocytes may disintegrate in large numbers in the blood itself, or they may leave the circulatory channels. The latter seems to be the most plausible hypothesis in view of the failure to demonstrate any decrease in numbers in sections of isolated blood vessels. Bunting and Huston insist that the small accumulations of leukocytes found in the organs generally will not account for the vast numbers that must be assumed to leave the blood vessels, unless the cells are destroyed in the tissues as rapidly as they arrive there. As they remind us, without destruction there would in this case of necessity be an increasing accumulation in the organs, such as may be found in lymphocytic leukemias.

A histologic study of the various organs and tissues has led Bunting and Huston to the conclusion that the great majority of the lymphocytes finally enter the mucosa of the gastro-intestinal tract and, in addition, pass through it into the intestinal lumen. These facts, if they are confirmed, must inevitably lead to speculation as to the function of the lymphocytes within the intestinal lumen. One naturally thinks of the bacteria and toxic products formed there. The lymphocytes are not phagocytic, so that they can scarcely be conceived to protect the body by engulfing microorganisms. Whether they are responsible for some degree of immunity to harmful chemical products, or act in some quite different local physiologic function, remains to be ascertained. In any event, if the cells migrate from the blood vessels into the mucous membranes and through them to their surfaces, as has just been reported, the reason for this remarkable behavior demands earnest consideration.

1. Davis, B. F., and Carlson, A. J.: Contribution to the Physiology of Lymph, IX, Notes on the Leukocytes in the Neck Lymph, Thoracic Lymph and Blood of Normal Dogs, Am. J. Physiol. **25**: 173, 1909.

2 Bunting, C. H., and Huston, J.: Fate of the Lymphocyte, J. Exper. Med. **33**: 593 (May 1) 1921.

Current Comment

THE BOSTON SESSION

The Boston session of the American Medical Association of 1906 was most notable and successful from every point of view. It set the pace for attendance up to that time—over 4,700. This year's meeting also will be regarded as successful and splendid from every point of view. The registration—5,506—was the third largest in the history of the Association. In spite of this large attendance, there was little difficulty in providing accommodations. For this the Local Committee on Arrangements deserves special commendation as well as for the efficient way in which it arranged for the session: it was quite evident that plans had been carefully laid to meet every emergency—and they were well carried out. The entertainments were ideal and particularly appropriate to the historical interest attaching to Boston and its vicinity. The scientific sections, without exception, were well attended. This is the second year of the new arrangement regarding section meetings, and there was evidence of the fact that the Fellows have realized that the scientific work covers Wednesday, Thursday and Friday, rather than Tuesday, Wednesday and Thursday, as obtained prior to last year. The Commercial Exhibit was unusually attractive, stimulating and instructive, including displays of all the newer mechanical aids to diagnosis and medical practice. The Scientific Exhibit, both in volume and quality, was excellent and its location made it easily accessible—consequently well attended. The weather was perfect. To add to the pleasure of those who attended was the cordial welcome everywhere extended by the local profession and the public. Too much praise cannot be given to the Local Committee on Arrangements. The courteous attention given to visitors, the cooperation available to both officials of the Association and of the sections, the character and liberality of the entertainments—all resulting from the efforts of the local committee—were the vital factors in making the Boston session of 1921 a conspicuous success.

THE JAPAN MEDICAL WORLD

The Japanese are progressive in medicine as in other of life's activities. This is emphasized by the appearance of a new journal, the *Japan Medical World*. The editors and publishers show excellent judgment by adopting the general style and format of THE JOURNAL. In the editorial announcement, attention is called to medical progress in Japan during the last fifty years, and it is justly pointed out that many notable Japanese scientists, "whose names will forever adorn the annals of medicine," have made contributions to this advancement. Attention is also called to the fact that there are twenty-two medical colleges in Japan well equipped for research and investigation. Besides these educational institutions there are specially endowed institutions for research, such as the Kitasato Institute for Infectious Diseases. The periodical—monthly, $6 per

annum—is to be published entirely in English and will be a medium by which Japanese medical activities can be introduced to the English speaking world.

THE PHAGOCYTIC ACTION OF BONE MARROW

In addition to blood formation and the production of certain immune bodies, the bone marrow manifests considerable phagocytic action toward inert particles. It has long been known that pigments under natural and experimental conditions are deposited in the marrow, but it is only in recent years that the finer details of this phagocytic action have been determined with any degree of certainty. Recently, Wislocki [1] studied the distribution of India ink particles injected intravenously in rabbits, guinea-pigs, dogs and cats. He found that the marrow of the rabbit becomes distinctly blackened from the injection of India ink, and that certain cells take up ink particles in the blood. In the guinea-pig the marrow was blackened also by the carbon, but not so markedly as in the rabbit. In the dog and cat the ink was not grossly visible in the marrow, and on microscopic examination only an occasional ink granule could be found in the endothelial cells. Wislocki concludes that there is a difference in the ability of the marrow cells of different animals to take up and store inert particles. In the rabbit the distribution of the particles coincides closely with that of the hematopoietic tissue of the marrow, and the particles were found only in the endothelial cells that line the vascular channels of the marrow and in the reticulum cells that form the supporting tissue for the blood-forming elements. In young rabbits, however, a few granules were found in osteoblasts in the regions of the epiphyseal lines. Nagao,[2] working in the McCormick Institute for Infectious Diseases, studied the distribution of ink particles at different lengths of time after injection, and found that granules were deposited first in the endothelial cells of the capillaries and veins. In the early stages no granules were found in the marrow cells proper, but later granules accumulated in masses just as in the liver and spleen, and the reticular cells accumulated ink particles, while the endothelial cells gradually became free. He found also that osteoblasts and osteoclasts took up particles, especially after large doses, but that the myelocytes and megakaryocytes remained free. The bone itself was usually free from ink in the earlier stages; but later, granules appeared not only in the haversian and Volkmann canals but also in bone cells and endothelial cells of lymph vessels of the periosteum, giving the periosteum a blackish color. Apparently, then, the phagocytic activity of the marrow varies with different animals. In the rabbit the endothelial and reticulum cells are highly phagocytic for certain inert particles. It is of interest to note that, according to Nagao,[3] the endothelial cells of the marrow of guinea-pigs are not phagocytic for killed nonhemolytic streptococci circulating in the blood. Evidently, further experiments are necessary in order to reveal the different laws that govern the phagocytic action of marrow cells in different species.

1. Wislocki, G. B.: Experimental Observations on Bone Marrow, Bull. Johns Hopkins Hosp. **33**: 132 (April) 1921.
2. Nagao, K.: The Fate of India Ink Injected into the Blood, J. Infect. Dis. **27**: 527 (Dec.) 1920.
3. Nagao, K.: The Fate of Killed Nonhemolytic Streptococci Injected into the Blood and Resulting Cellular Changes, J. Infect. Dis. **27**: 327 (Oct.) 1920.

PRESIDENT-ELECT GEORGE E. DE SCHWEINITZ

The election of Dr. George E. de Schweinitz, professor of ophthalmology of the University of Pennsylvania, places at the head of the Scientific Assembly of the American Medical Association a leader in medical science whose achievements are a stimulus to the medical profession of the country. While following a specialty in medicine, he has kept in close contact with general medical interests as well as with science in general. Dr. de Schweinitz was born in Philadelphia, Oct. 26, 1858, son of the Rt. Rev. Edmund de Schweinitz. He received his A.B. and A.M. degrees at the Moravian College at Bethlehem, Pa., in 1876, and was graduated in medicine by the University of Pennsylvania in 1881. The latter institution conferred on him the LL.D. degree in 1914. Dr. de Schweinitz has made many significant contributions to the literature of ophthalmology, including a textbook on the "Diseases of the Eye, Ear, Nose and Throat" in 1889; a textbook on "Diseases of the Eye" in 1892; a monograph on "Toxic Amblyopias" in 1896, and numerous articles and monographs on ophthalmologic and neurologic subjects to periodicals and encylopedias. He is a member and ex-president of the American Ophthalmological Society, and a member of the American Philosophical Society and of the Academy of Natural Sciences. In the American Medical Association he served as secretary of the Section on Ophthalmology in 1891-1892, and was chairman of the section in 1896-1897. During the war, Dr. de Schweinitz was ordered to active service in September, 1917, as Major in the Medical Reserve Corps. He was shortly promoted to Lieutenant Colonel and served in France from October, 1917, to March, 1918. Later he was promoted to Colonel and assigned

GEORGE E. DE SCHWEINITZ, M.D.
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

to active duty as Officer in Charge of and Consultant in Ophthalmology in the Surgeon-General's Office. By electing him President of the American Medical Association, the House of Delegates recognized not only one of the leading ophthalmologists of the world, but also one of the special branches of medical science to which American physicians have made as great contributions as have those of any other country.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal.—A sterling silver dinner set was presented to Dr. John Daniel Morgan, Jr., Fresno, at a farewell dinner given in his honor, May 30. Dr. Morgan has retired as superintendent of the county hospital to resume his private practice. He will be succeeded by Dr. Herbert O. Collins, former superintendent of hospitals and city physician of Minneapolis.——Dr. George T. Pomeroy, Oakland, is on his way home from Turkey, where he had charge of relief work in an American hospital. While in Turkey, Dr. Pomeroy was for weeks a captive of the Turkish Nationalists.——Dr. Harris Klein, San Francisco, suffered internal injuries and several fractured ribs when his automobile skidded and overturned on a wet pavement.

DISTRICT OF COLUMBIA

Hospital News.—The $2,000,000 Gallinger Psychopathic Hospital on the grounds adjoining the district jail will be completed by the end of July. The hospital consists of four buildings, and the capacity of the group will be 200 patients.

Bill to Control Venereal Disease.—Representatives of the District of Columbia Medical Society, the District health office and other medical as well as social welfare organizations appeared before the house committee of the District of Columbia in support of the Raker bill seeking to prevent the spread of social disease in the district. The witnesses were in charge of Col. William Owen, retired surgeon, representing the Social Hygiene Association. The measure provides penalties for failure of venereal patients to observe orders of their physicians. It also compels physicians to report all venereal cases to the District health office. One feature of the bill, which received opposition because it interferes with personal liberties, makes it an offense for any person suffering with a social disease, to fail to report it to the District health office.

FLORIDA

Legislative News.—The house has amended the bill proposing the abolishment of the state board of health. The board will continue as it has in years passed, being composed of citizens of the state instead of members of the governor's cabinet. However, the present status has been so changed that the governor, instead of the board, will name the state health officer, who shall continue in office at the pleasure of the governor.

Single Licensing Board in Florida.—A bill providing for a single board of medical examiners was passed by the recent state legislature and has been signed by the governor. It replaces the three separate boards heretofore existing and provides for the registration only of graduates of Class A medical schools and for the revocation of licenses for unprofessional conduct. Examinations are to be held twice each year. The securing of this practice act in Florida leaves only five states having multiple boards. These are Arkansas, Connecticut, District of Columbia, Louisiana and Maryland.

GEORGIA

New Hospital at Athens.—The Athens General Hospital was opened, June 9, and is to be owned by a corporation consisting of physicians and lay citizens of the community. Five hundred stockholders hold from one to fifty shares each. The control of the institution is vested in the board of trustees composed of lay citizens. A modern brick and reinforced concrete building will contain two surgical operating rooms, with an obstetric delivery room and nursery separate. The laboratory facilities will be quite complete. The roentgen-ray laboratory is to be completely equipped for roentgen-ray diagnosis and therapy. The clinical laboratory is to have facilities for handling tissue diagnosis, clinical pathology, bacteriology, pathology and the like. At present the hospital provides for twenty bed patients. An outpatient department is also to be in operation.

INDIANA

Margaret Christian Park.—The city of Indianapolis has been given 40 acres of land to be used for a public park, by Dr. Wilmer Christian and his wife in honor of Dr. Christian's mother. The park will be called the Margaret Christian Park. The land has been in possession of the Christian family for more than eighty years.

Hospital News.—It is announced that construction work will begin, July 1, on a new hotel and sanatorium to be erected on Cunningham Hill, Martinsville, at a cost of $1,250,000. The buildings which are expected to be ready for occupancy, Jan. 1, 1922, will occupy a 15-acre site, and 63 acres in the rear will be devoted to golf and other forms of recreation.——With the approval of the plans and specifications for the Wayne County Tuberculosis Hospital by Thomas B. Kidner, consultant of the U. S. Public Health Service and an authority on tuberculosis hospital construction for the National Tuberculosis Association, the work of constructing the sanatorium will soon begin. More than $100,000 will be available for the institution, one half of this amount being the gift of two persons whose identity has not been disclosed. The county council had previously appropriated $50,000. The hospital, 6 miles south of Richmond, has a large acreage, which will enable the county to construct separate buildings for the nurses and the administrative officers. Fayette and Union counties will be asked to send their patients to this hospital.

MARYLAND

Medical Examiners Meet.—At a recent meeting of the State Board of Medical Examiners, held at the Faculty Building, Baltimore, the question of revoking licenses of physicians convicted of violating the Harrison Narcotic Law or prescribing whisky illegally was discussed from all angles, without any action being taken. Dr. Herbert Harlan, Baltimore, president of the board, presided.

For Health Show Site.—Dr. John S. Fulton, Baltimore, secretary of the state board of health, has suggested Washington County as the section for the demonstration in efficient health administration which will be conducted jointly by the state department of health, the U. S. Public Health Service, the School of Hygiene and Public Health, and the International Health Board. Dr. Richard B. Norment, Hagerstown, will be in charge of the field work of the demonstration. Before Washington County can be definitely selected the four agencies cooperating must agree on the locality.

MASSACHUSETTS

Health Conference.—State and Provincial Health Authorities of North America held an annual conference at Boston, June 1, under the presidency of Dr. Charles F. Dalton, Burlington, health commissioner of Vermont. Dr. Clarence St. Clair Drake, Springfield, Ill., received the distinction of being the first to be elected to life membership in the organization. The conference recently amended its by-laws to permit of life memberships.

Massachusetts State Medical Meeting.—At the one hundred and fortieth annual meeting of the Massachusetts Medical Society held, May 31-June 1, at Boston, Dr. Haven Emerson, New York, delivered the Shattuck lecture on "The Prevention of Heart Disease, a New Practical Problem." Dr. David L. Edsall, Boston, in a discussion of "Premedical Education," objected to further extension of the required list of studies, on the ground that it would lead to sterilization of individuality. The following officers were elected for the ensuing year: president, Dr. John W. Bartol, Boston; vice president, Dr. Brace W. Paddock, Pittsfield; secretary, Dr. Walter L. Burrage, Jamaica Plain; treasurer, Dr. Arthur K. Stone, Framingham Center, and librarian, Dr. Edwin H. Brigham, Brookline.

MISSOURI

State Board of Health.—Drs. Rudolph S. Vitt, St. Louis, and Franklin E. Murphy, Kansas City, have been appointed members of the state board of health.——At a meeting held at St. Joseph, May 25, the state board of health reorganized and elected Dr. Emmett P. North, St. Louis, president, and Dr. Cortez F. Enloe, Jefferson City, secretary.

Personal.—Dr. Varney Hazelwood has resigned as superintendent of the Jasper County Tuberculosis Hospital, Webb City, to become superintendent of the government hospital of Alexandria, La.——Dr. Minard J. Armstrong, formerly superintendent of the state tuberculosis hospital, Mount Vernon, has succeeded Dr. Hazelwood as superintendent of the Jasper County Tuberculosis Hospital.

Objection of Medical Students to State Examinations.—Because of the new law passed by the state legislature which physicians feel will lower the standards of medical requirements of the state, forty members of this year's graduating class of the medical departments, St. Louis University, have submitted a proposal to Dr. Hanau W. Loeb, dean, that they take examinations for license to practice in East St. Louis under the Illinois law, instead of in Missouri. These students constitute about two thirds of the 1921 graduating class.

Favor Nonpartisan Boards of Health.—The state medical association, at its recent meeting at St. Joseph, went on record in favor of starting an educational campaign throughout the state to remove the boards of health from political influence. In order to provide funds for this campaign the association raised the yearly dues from $3 to $5, the additional $2 to go into the fund for the work. The membership of 3,400 means that $7,000 is already available. A motion was also passed to have an amendment to the by-laws prepared which would require that every new member should be a citizen of the United States. This rule was recently passed by the Buchanan County society and will be acted on by the state association at its meeting next year.

MONTANA

Personal.—Governor Dixon has appointed Dr. William F. Cogswell, Helena, to represent the state board of health, and Dr. Creswell T. Pigot, Roundup, to represent the Montana Medical Association on the state orthopedic commission, which was authorized recently by the state legislature.

NEBRASKA

Personal.—Dr. Harold Gifford, Omaha, was given the honorary degree of Doctor of Laws by the University of Nebraska, Lincoln, at the commencement, June 6. This is the first time this degree has been conferred on one of the medical profession in the history of the university.

NEW YORK

New York City

Externship in the Roentgen-Ray Department.—There has been established at the Mount Sinai Hospital a system of externship in the roentgen-ray department. There are to be externs, each serving one year, one beginning February 1 and the other August 1. The next appointment begins Aug. 1, 1921.

Personal.—Dr. J. Mitchell Prudden has been elected a member of the International Health Board of the Rockefeller Foundation.——Dr. Brandreth Symonds had conferred on him the honorary degree of Doctor of Laws at the ninety-sixth commencement of Hobart College, in recognition of his service to the cause of public health.——Dr. Simon Flexner delivered an address at the Bryn Mawr College commencement in which he made a plea urging young women to take up the pursuit of science.——Dr. George David Stewart received the honorary degree of Doctor of Laws at the commencement of New York University, June 8.

Gifts to New York University Medical School.—In his commencement address, Chancellor Elmer Ellsworth Brown announced important gifts to the medical department of the university. He stated that an arrangement had been made for erecting a seven story addition to their medical group, the primary purpose of which is to provide satisfactory housing for the New York State Bacteriological Laboratory. Two floors of this same building will be used for the teaching of preventive medicine, hygiene and sanitation, a fund of $35,000 having been contributed by the Rockefeller Foundation for this purpose. A gift of $150,000 has been donated by Mrs. Helen Hartley Jenkins to complete the endowment of the department of Medicine, for which Mrs. Jenkins had previously given the sum of $100,000. This gift is in memory of Dr. A. Alexander Smith. Mrs. Charles H. Sherill had added to her earlier benefactions a sum of $1,000 for additions to the Edward Gibbs memorial roentgen-ray laboratory. Attention was also called to the establishment of an alumni federation covering all the schools of the university and the successful launching of a monthly magazine, the *New York University Alumnus*.

OHIO

Personal.—Dr. Paul J. Hanzlik, Cleveland, has accepted an appointment as professor of pharmacology at the Leland Stanford Junior University School of Medicine.——Dr. Anthony J. Lanza, Cleveland, secretary of the Ohio Industrial Physicians' Association, has been engaged by the International Health Board of the Rockefeller Foundation to inaugurate a department of industrial hygiene in the new ministry of health in Australia.

OREGON

Board of Health Meeting.—The quarterly meeting of the Oregon State Board of Health was held at Grants Pass, May 11, in connection with the meeting of the Southern Oregon Medical Association. The board adopted resolutions favoring a consolidation of the health welfare bodies of the state. A resolution was also adopted urging uniform legislation and model laws for municipalities.

Hospital News.—The campaign for raising money for the construction of the new Salem hospital has reached the $45,000 mark, and it is expected that construction work will be started by July 1. It is planned to erect a building valued at $125,000.——The site for a half-million dollar fireproof hopital to be erected by the Sisters of Mercy at Coos Bay was secured on May 12, national hospital day, and the ground has already been broken for the beginning of construction work. The structure is to be the largest and most modern hospital in the state outside of Portland and will serve the entire Oregon district west of the Coast range.——A new municipal isolation hospital, with a capacity of sixty beds, has been built at Kelly-Butte, at a cost of $56,000. The hospital will care for any type of contagious disease, except smallpox.——A site has been selected and plans for a new hospital at West Linn are being drawn. It will be known as the Clackamas County Hospital, and the buildings and equipment will cost $35,000.

PENNSYLVANIA

Berks in Health Move.—The day after the act authorizing counties to establish hospitals for the treatment of persons afflicted with tuberculosis was signed by the governor, a petition was immediately circulated by the Reading Sanatorium for Treatment of Tuberculosis, the Berks County branch of the Pennsylvania Tuberculosis Society. Under the new law the Berks commissioners will take steps to have a referendum taken on the hospital question at next fall's election after the petition is presented. If the vote is favorable plans and site will be selected, both of which must be approved by the state commissioners of health. Movements are being started in other large counties to take advantage of the new provisions.

Philadelphia

The Medical Club Reception.—Dr. William Blair Bell, Liverpool, England, and other distinguished foreign guests of the American Medical Association were the guests of honor of the Medical Club of Philadelphia on Monday evening, June 13, at the Bellevue Stratford Hotel.

Personal.—Dr. Harold W. Jones, for two years chief resident physician at Jefferson Hospital, was given a testimonial dinner by members of the resident's staff, June 10. At the close of the dinner, which was served in the hospital, Dr. Jones was presented with a case of instruments. Dr. Jones is a graduate of Jefferson Medical College, a member of the class of 1917.——Dr. Edward A. Schumann addressed the graduating class of the Frankford Hospital Training School for Nurses at the commencement exercises, June 9, in the North Frankford Baptist Church.

TENNESSEE

State Board of Health.—At the recent semiannual meeting of the state board of health, Dr. Walter J. Miller, Johnson City, was elected president for the year, and Dr. Evander M. Sanders, Nashville, vice president; Dr. F. M. McRee, for two years a member of the board, was succeeded, June 1, by Capt.

T. F. Peck. Dr. C. B. A. Turner is the fourth member of the board.

State Board of Medical Examiners.—Governor Taylor has recently reappointed Dr. Alfred B. DeLoach, Memphis, and Dr. Benjamin L. Simmons, Nashville, as members of the state board of medical examiners. Other members of the board are: Drs. Charles A. Abernathy, Pulaski; Nathaniel T. Dulaney, Jr., Bristol; William L. McCreary, Knoxville, and Harley W. Qualls, Union City.

Vanderbilt Receives Increased Endowment.—The Carnegie corporation and the General Education Board, both of New York, have each given half of $3,000,000 to the medical department of Vanderbilt University as an endowment. Funds for the erection of new buildings are available from appropriations of $4,000,000 made by the General Education Board in 1919. It is planned to erect an entirely new plant on the West Nashville campus. This new plant is to be completed about 1924. In the meantime, medical instruction will be continued in the present buildings on the south campus.

Compensation Act Covers Malpractice.—After several days' deliberation, Judge Laughlin, Memphis, ruled that an employee cannot continue to take the benefits of both the compensation act and a suit against a physician on the ground of malpractice. The point arose in the suit of Robert Graham against Dr. Asher R. McMahon, Memphis, for $35,000, charging malpractice. After filing suit against the physician, Graham went into court and settled with his employer and the insurance company under the terms of the state workman's compensation act. The judge elected that he could not enjoy the settlement under the state act and at the same time maintain the right to sue the physician.

GENERAL

Appropriation for National Board of Medical Examiners.—The board announces an appropriation, by the Carnegie Foundation, of $100,000 for its use during a five-year period to establish a national standard of examination and certification of graduates in medicine.

American Pediatric Society Elects.—The American Pediatric Society, at its thirty-third annual meeting, held in Swampscott, Mass., June 2-4, elected the following officers for the ensuing year: president, Dr. Maynard Ladd, Boston; vice president, Dr. Percival J. Eaton, Pittsburgh; secretary and treasurer, Dr. Howard C. Carpenter, Philadelphia; editor and recorder, Dr. Joseph Brennemann, Chicago.

Typhus on Mexican Border.—An outbreak of typhus among the Indians in the San Juan Agency, New Mexico, and at other points along the Mexican border has resulted in two officers of the U. S. Public Health Service being ordered to the scene. They are Surgs. C. E. Waller and Charles Armstrong. These surgeons will go to Sante Fe, New Mexico to confer with the state commissioner of health first, later cooperating with the state and Indian medical authorities in the suppression of the disease.

Intoxicating Liquor Bonds.—According to a recent Treasury decision (T. D. 3117, June 8, 1921), "hereafter no bond need be filed with application for permit under Title II of the National Prohibition Act (1) where the quantity of liquor to be procured during a calendar year does not exceed twenty wine gallons, unless in the opinion of the Federal Prohibition Commissioner a bond should be filed; or (2) in special cases where in the judgment of the Federal Prohibition Commissioner a bond is not necessary." Title II deals with the "Prohibition of Intoxicating Beverages" as distinct from Title III relating to "Industrial Alcohol."

American Psychiatric Association.—At the seventy-seventh annual meeting of the American Medico-Psychological Association held, May 31 to June 3, in Boston, a new constitution was adopted providing among other slight changes a change in the name of the organization which will hereafter be known as the American Psychiatric Association. The publication of the *American Journal of Insanity*, Johns Hopkins Press, Baltimore, will hereafter be the official organ of the association and will be published under a new name, the *American Journal of Psychiatry*, while the former transactions bound in book form will be omitted. The newly elected officers are: president, Dr. Albert M. Barrett, Ann Arbor, Mich.; vice president, Dr. Harry W. Mitchell, Warren, Pa., and Dr. Clarence Floyd Haviland, Middletown, Conn., secretary-treasurer.

Congress Acts on Appropriation for Social Hygiene Board.—In the final enactment of the Deficiency Bill into law, Congress reduced the amount allowed to the Interdepartmental Social Hygiene Board to $225,000. Congress confines the activities of the board to protecting the military and naval forces of the United States against venereal diseases; $200,000 is to be used exclusively for this purpose; and $25,000 is allowed for administration expenses. Congress struck out the proposed allowance of an additional $200,000 for allotment to the various states for the prevention and control of these diseases, outside of the military and naval forces. The result of this action by Congress is that the various state boards of health and various municipal welfare organizations will not receive any funds during the next fiscal year from the federal government to combat venereal diseases. Such funds for such bodies must come from the state government or other local sources.

Bequests and Donations.—The following bequests and donations have recently been announced:

Presbyterian Hospital, Philadelphia, $10,000 for a room in memory of his mother, Anna Clifford Hollingsworth, and $5,000 in memory of Dr. C. H. R. Wharton; Chestnut Hill Hospital, Philadelphia, $10 000 for a room in memory of Laura Albert Hollingsworth, his wife, by the will of Pemberton Hollingsworth.

Rochester (N. Y.) Homeopathic Hospital, $6,000, by the will of Bertha E. Hoxie, New York.

New Orleans Hospital and Dispensary for Women and Children, $2,500, by the will of Dr. William Kohlmann, New Orleans.

Jewish Orphan Asylum, Cleveland, $500; National Jewish Hospital for Consumptives, Denver, $200; Jewish Consumptive Relief Society, Denver, $100; Sir Moses Montefiorre Kesher Home for Aged and Infirm, Cleveland, $100; Marks Nathan Jewish Orphans' Home, Chicago, $100; Visiting Nurses' Association, Davenport, Iowa, $100; National Farm School of Buck's County, Pa., $100; St. Luke's and Mercy hospitals, Davenport, Iowa, each $100; Salvation Army and Ladies' Industrial Relief Society, and Friendly House, Davenport, Iowa, each $100, by the will of Isaac Petersberger, Davenport, Iowa.

Franklin Hospital, Philadelphia, $200, by the will of the late Horace Williams.

Sheppard-Towner Bill.—The American Gynecological Society, at its forty-sixth annual meeting held, June 2-4, 1921, took the following action regarding the Bill for the Protection of Mothers and Infants commonly known as the Sheppard-Towner Bill. This action of the society was taken, almost unanimously, after careful consideration of a report of its committee on maternal welfare acting jointly with a similar committee of the American Child Hygiene Association.

This Society wishes definitely to state its position for the information of the medical profession and others who are interested in this legislative program.

1. The committee is in thorough accord with the ends which this bill seeks to attain, namely, the protection of the health of mothers and infants.

2. We indorse the coordnation of all health activities under one head. We consider the protection of mothers and infants to be a *health measure* of paramount importance to the individual and the state.

3. We oppose in principle the control of health measures by non-medical individuals or boards.

4. We believe in the local control of health activities as distinguished from federal. We approve and indorse the idea of propaganda and investigation emanating from the federal government.

5. We do not indorse the Sheppard-Towner bill in its present form because it does not conform to the above principles and because it embodies the questionable plan of subsidizing state health activities.

6. We endorse the project of establishing a National Department of Health.

LATIN AMERICA

Personal.—Dr. L. Vargas Salcedo of Santiago, Chile, has been appointed secretary of the Superior Council of Public Charities of Chile.——Dr. G. Amunátegui, dean of the School of Medicine of Chile, has been appointed manager of the San Vicente de Paul Clinic Hospital.

New Military Hospital for Chile.—The funds already collected for the construction of a military hospital at Santiago amount to $170,000. Among the persons in charge of the collection of funds for the construction of the hospital are the following: Gen. L. F. Brieba, Lieut.-Col. A. Ewing, Dr. T. Boonen and Dr. Ostornol.

Conversion of Gambling Houses Into Hospitals.—Owners of gambling houses in Juarez, Mexico, having been ordered by the Mexican government to close their houses within thirty days, announced the formation of a company to build and operate a tuberculosis hospital at Juarez. Tents are being pitched on the race tracks, and the men now employed by the gambling concessions will be kept by the sanatorium.

Vital Statistics of Rio de Janeiro.—During the year 1920 the death rate of Rio de Janeiro was 18.92 per thousand, which shows a decrease over the previous year. Tuberculosis, malaria and typhoid fever showed, however, a very slight increase. According to the census made in 1920 under direction of Dr. Bulhoes Carvalho, Rio de Janeiro had in 1920 a population of 1,157,873 against 42,168 in 1799, 112,695 in 1821 and 811,443 in 1906.

Chilean Hospitals Lack Funds.—In spite of the million dollars deficiency appropriation granted by the last Chilean congress for hospitals, the different boards of charities in charge of these hospitals have still deficits which in some cases amount to millions of dollars. A bill has been introduced in the Chilean senate to increase to 7 per cent. the tax on the pari mutuel at horse races, the proceeds of which will be devoted to public charities purposes.

FOREIGN

American Medical Association of Vienna Reorganizes.—American physicians in Vienna have reorganized the club known as the American Club. At present the membership includes eighteen physicians.

A Monument to Wurtz.—The monument in memory of the chemist, A. Wurtz of Paris, will be unveiled at Strasbourg, July 5, by delegates from the Paris University, the Académie de Médecine and the medical faculty, of which he was the dean. He died in 1884.

Tribute to Professor Stiénon.—The pupils and other friends of Prof. Stiénon on the occasion of his approaching retirement from the chair of pathologic anatomy at the University of Brussels, are planning to found an endowment in his name. Baron L. Lambert, Ave. Marnix 20, Brussels, is in charge of the tribute. All subscribers of more than 20 francs will receive a bronze replica of the souvenir medal.

Tribute to Professor Monti.—A large gathering of pupils and friends met in tribute to Prof. A. Monti on the twenty-fifth anniversary of his connection with the University of Pavia as chief of the Institute of Pathologic Anatomy. The list of his works on general pathology, clinical medicine and bacteriology is a long one. He was presented on this occasion with the first volume of the set containing the results of his research from 1915 to 1919.

Dr. Paz Soldán in Madrid.—Dr. Carlos Enrique Paz Soldán, editor of the *Reforma Médica,* and professor of hygiene at the University of Lima, Peru, is now in Europe. At Madrid he delivered two addresses, one on "Endemo-Epidemiologic Formulas and Their Application," and a public lecture on "The Duty of the Race in the Present Age of the World and the Share that Social Medicine Should Take in the Work." Both addresses are published in the *Medicina Ibera* of May 14.

Mental Hygiene League.—There has recently been formed in France a League for Mental Prophylaxis and Hygiene. The league proposes to study problems relating to the prevention of mental disorders, both in individuals and groups. Attention is being given to the care of mentally defective children, and the league is also planning the establishment of early treatment clinics. At present these are designed as a part of the organization of the existing asylums. The league desires to be brought into contact with organizations having similar aims in other countries.

Tribute to the Memory of Jenner.—As already mentioned, the one hundred and twenty-fifth anniversary of Jenner's discovery of vaccination fell on May 14. Among the memorial tributes was a special public meeting organized by Netherlands physicians interested in the history of medicine. It was related that Jenner's report of his inoculation of James Philips was rejected by the Royal Society, to which he had sent it, with the comment that the proof presented was not convincing enough to be published in the transactions of the society. Jenner published his report then in a special pamphlet. Vaccination was introduced into Holland in 1800, and a number of engravings were reproduced dating from about that time dealing with vaccination.

Postgraduate Work in France.—The physicians of France have established in the Faculte de médecine, 12 rue de l'Ecole de Medecine, an "Association pour le development des relations médicales entre la France et les pays alliés," where any visiting medical man is made welcome and given assistance by a secretary who incidentally seems to have no limit to her linguistic accomplishments. In the bureau, there is a large file, with a classified directory of physicians, hospitals and subjects. For instance, if one is interested in orthopedics, the secretary looks up that subject and hands the visitor a list of the men who are doing orthopedic work in Paris, their office addresses, their hospitals, and their hours of visiting and operating, generally one day being particularly starred as the most interesting day for the foreigner.

Medical Assistance for Foreigners in France.—The French house of deputies recently discussed ways and means for care of the alien sick. According to the present legislation, foreigners residing in France have no right to medical aid or hospital care unless there is some treaty of reciprocal benefits with the homeland. At present there is no such treaty extant, but the indigent alien sick are cared for from simple humanity. One speaker asked that the state should notify the homeland and try to secure reimbursement for expenses. The discussion brought out that the wounded and those with acute, and especially epidemic diseases, will continue to be cared for as in the past pending the conclusion of reciprocal treaties. But foreigners with chronic diseases should not be admitted to the hospital unless there is plenty of room, and after consultation with the consul of the country to which the foreigner belongs, with a view to reimbursement of the expense to the hospital. The report is published in the *Journal Officiel* of April 30.

The "Oriental University" Fraud.—The *Deutsche medizinische Wochenschrift* devoted over half a column recently to this "mushroom university" which, it remarks in conclusion, "the American Medical Association has long been striving to put an end to." The article comments in detail on the record of the members of the teaching force, saying that the president, H. P. Holler, in 1909, was fined and given thirty day in prison for fraudulent practices, and that one of the professors advertises that he will draw horoscopes and foretell the future. "The institution offers thirty-two different kinds of diplomas for a two-year correspondence course or a thesis, the expense graduated to the willingness of the candidate to pay." The institution has a number of representatives in other countries, the Mitelsky Naturheilanstalt being their representative in Berlin. The editorial continues "To increase the trustworthy impression, the president, Holler, had his signature attested by a notary, and the signature of the notary was then attested by the secretary of state, and by the ambassador of the foreign country involved. Thus it happened that the Swiss embassy in Washington for years had been endorsing this swindle in this way, and it was flourishing mightily in Switzerland. The University of Geneva interfered in 1919, however, and the institution can no longer be exploited in Switzerland. These data suffice to show the true character of this institution which has lately been carrying on a very active propaganda in Europe, especially in Germany and France. The medical degree it sells for $165 is absolutely worthless and is not accepted anywhere even in America."

Deaths in Other Countries

Ernest Courtney Lomas, Surg., Capt., Royal Navy; M.R.C.S. (England), 1888; F.R.C.S. (Edinburgh), 1907; aged 56; was appointed surgeon in the Royal Navy in 1891, and retired in 1919; died, February 24.——**Phineas Simon Abraham,** London; F.R.C.S. (Ireland), 1880; aged 74; died, February 23.——**William John Ironside Bruce,** London; University of Aberdeen, Scotland, 1903; organizer and physician in charge of the roentgen-ray department, Charing Cross Hospital; died March 21.——Dr. **E. Chiaruttini,** instructor in pathology in the medical school at Udine.——Dr. **P. E. Winge,** a medico-legal authority and author of an extensive history of insanity in Norway, aged 64.——Dr. **A. Zubiani,** one of the early pioneers in the organized fight against tuberculosis in Italy.——Dr. **Juquelier,** chief of the Vaucluse Asylum in southern France.——Dr. **Vénot** of Bordeaux, aged 87.——Dr. **R. Fajardo Vega** of Bogota.——Dr. **Avelino Barrena** of Havana, who has been connected with the administration for some time.——Dr. **G. Fischer** of Hannover, the editor of Billroth's letters.——Dr. **Groedel,** the head of the sanatorium bearing his name at the watering place of Nauheim, Germany, aged 71.

CORRECTION

Association of American Physicians.—In the proceedings of this organization published in THE JOURNAL, June 4, the name "Sidney Strauss" printed as discussing the paper of Dr. Woodyatt should be "Solomon Strouse."

Officers of Physicians and Surgeons Industrial Association of Michigan and of Michigan State Society.—Through an error THE JOURNAL listed as officers of the Michigan State Medical Society the names of those elected as officers of the Physicians and Surgeons Industrial Association of Michigan. At the meeting of the Michigan State Medical Society the following officers were elected: president, Dr. W. J. Kay, Lapeer; vice presidents, Drs. J. W. Hauxhurst, Bay City, E. Sawbridge, Stephenson, H. MacMullen, Manistee, and H. A. Hafford, Albion; councillors, Drs. F. B. Walker, Detroit, R. C. Stone, Battle Creek, H. E. Randall, Flint, C. C. Clancy, Port Huron; speaker of the house of delegates, Dr. J. D. Brook, Grandville, and vice speaker, Dr. Carl Moll, Flint. For the 1922 meeting place, Flint was chosen.

Government Services

Public Health Service Publications Limited to One Thousand Copies

All publications of the U. S. Public Health Service must be reduced to 1,000 copies, according to the new law passed by the last session of Congress. The purpose of the act is the conservation of white paper. Innumerable publications of the health service will be affected. The Public Health Reports sent out every week have been distributed to the number of 10,000 copies. This must be reduced to 1,000. Bulletins of the Hygienic Laboratory and other bureaus will also be reduced.

Reserve Medical Officers May Care for War Veterans

After a sharp debate in the Senate the amendment to the Army Appropriation bill permitting the calling to active duty of reserve medical officers to serve in Army hospitals caring for beneficiaries of the Bureau of War Risk Insurance was passed. This measure gives the Surgeon-General of the Army authority to place reserve officers into active service with the stipulation that this step can only be taken when there are an insufficient number of regular Army medical officers available. In the course of the debate it was brought out that many of the Army hospitals having empty beds would be utilized for the care of disabled war veterans in the future.

Amalgamation Bill Passes House

The Sweet Bill creating a Veteran's Bureau in the Department of Treasury has passed the House of Representatives after a week's debate by a vote of 335 to 0. The terms of the measure provide for the amalgamation of the Bureau of War Risk Insurance, the Board of Vocational Rehabilitation and the activities of the U. S. Public Health Service with regard to the care and treatment of former service men. Fourteen regional offices are established throughout the country, all with authority to adjust compensation, render medical attention, and send patients to hospitals upon application. Offices numbering 140 are also established at which war veterans can apply for relief.

Investigation on Care of War Veterans

The U. S. Public Health Service and other agencies will be subjects of an investigation conducted by five members of the Senate, including three Republicans and two Democrats. The purpose of the inquiry will be to fix responsibility for the failure to give proper care to the disabled soldiers and sailors. The resolution for the investigation was introduced by Senator Walsh of Massachusetts and passed unanimously. The senator in discussing his resolution said he believed it would do much to restore the confidence and trust of the veterans if Congress would pick up and vigorously investigate charges that the disabled soldiers had not been cared for as they deserved. As a class, he said, the veterans had been much dissatisfied with the treatment accorded them.

Appointments in the Reserve Corps

Under date of May 27, 1921, the Adjutant-General of the Army made the following announcement:

On June 30, 1921, all appointments in the Officers' Reserve Corps tendered prior to April 30, 1919, will be cancelled unless acceptance or declination of appointment has been received. In the future appointments will be cancelled in those cases in which acceptance or declination is not received promptly and in any case within sixty days of the tender of appointment.

There are pending 4,669 appointments in the Officers' Reserve Corps of persons to whom appointments have been tendered and from whom no acceptance or declination of the tendered appointment has been received. The dates of these appointments extend back from sixty days to two years, and all reasonable efforts have been made by the War Department to secure the acceptances or declinations of the appointees.

The War Department realizes the value of the Reserve officers to the Government and desires to retain them in service, but also realizes that in an emergency it can count only upon those whose appointments are completely consummated. The necessity of readiness to meet an emergency requires that this large number of appointments in suspense be eliminated. Furthermore, economy in administration requires that the clerical labor of endeavoring to locate and secure replies from persons who largely through their neglect, failed to receive or reply to tenders of appointment, be eliminated.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 16, 1921.

Sudden Death of a Man Said to Have Been Rejuvenated by Professor Steinach's Operation

Recently the Budapest correspondent (THE JOURNAL, April 9, p. 1026) gave an account of the rejuvenation method of Professor Steinach, who, after successful experiments on rats, claimed to rejuvenate senile men by ligature of the vas deferens. "And no man putteth new wine into old bottles, else the wine doth burst the bottles" (St. Mark). Thus, a morning paper heads the account of an inquest on a man, aged 72, whose sudden death under dramatic circumstances has produced a great sensation. He died on the eve of a lecture entitled "How I Was Made Twenty Years Younger by the Method of Professor Steinach of Vienna," which he was announced to give in the largest hall in London (the Albert Hall). His landlady gave evidence to the fact that he went to Vienna at the beginning of the year and was away for eleven weeks, and returned a changed man. He was in correspondence with a hospital sister, aged 34, who nursed him after the operation and whom he said he was going to marry. He delivered one lecture on his case at a local hall, and then arranged to give one at the largest hall that could be obtained in London. Every detail, including an organist who was to play, was arranged for the lecture. The applications for tickets were numerous, not only from the general public but also from physicians and others interested scientifically in his case. He was an Englishman retired from business in Australia, with considerable means, and had no motive to make money. Business men from all parts of the country poured inquiries on him, and this induced him to give the world the benefit of his experience. On the morning of the lecture he was found dead in bed with a glass of wine beside him, which had been supplied after he had complained of pains in his chest. His physician gave evidence that the deceased consulted him a month ago for a pain in the left side, which he said was due to striking himself in the chest while showing some one how strong he was. He attributed death to angina pectoris. The necropsy revealed all the organs normal. There was no scar on the body such as would be due to an operation. A cousin of the deceased said that he returned from Vienna looking much younger, and that the operation had cost him $3,500. Just before the time of the lecture, Professor Steinach wrote, asking him to get a film taken of himself going through a number of gymnastic movements, which he wanted to send to scientific friends in America. In an interview given to the *Daily Chronicle*, he said that he asked Professor Steinach how long the effect of the operation would last, and he laughingly replied, "twenty to thirty years." "Well, I am a man of 70 now," the patient said; "when I am 100 I will come to you again for another operation, and then perhaps I shall last to 150."

Darwin's Theory of Man's Origin

Concluding his course of lectures on Darwin's theory of the origin of man, at the Royal Institution, Professor Keith referred to Dr. Henry Head's Croonian lecture just delivered on "Release of Function in the Nervous System," which showed how man's brain had reached its present eminence by the growth and domination of the cerebral centers—the seat of the higher faculties. They attained their position by mastering and bringing under control a world of ancient lower centers—centers which did almost independent duties in jungle days. Dr. Head showed that as long as the higher

centers are normal they control the lower; but if from stress of war, of business or of worry, the higher centers become damaged, then the lower and more ancient instinctive and emotional centers are let loose and overpower the higher. We have long been familiar, said Professor Keith, with the manner in which the cerebral hemispheres attain their dominant position in the growing human embryo, and their gradual increase as we ascend the animal kingdom. Dr. Head's researches have revealed the practical importance of Darwin's theory and given a clue to mental disorders, such as hysteria. The lower centers of the human brain form an underworld now being explored by the psychotherapist. Referring to the aspiration of H. G. Wells for a purely intellectual race free from instincts and prejudices, such as patriotism, Professor Keith thought the danger which would beset such a being would be that he might long for his grave just as we now count the hours to bedtime. The daily press showed that it was not the intellectual but the emotional which was wanted. The big headlines devoted to divorces, murders, scandals, sport and news of victory or disaster indicated what interested the public. Aside from half a column devoted to chess or the ponderous leader there was nothing for the intellectual person. Although the brain centers which subserve the instinctive, emotional and passionate life of man are spoken of as the lower, they are of the highest importance, for they give zest for life. With the rise and dominance of man's intellectual centers there has been an uplifting expansion of his emotional nature. It was this that made him a creature of laughter and tears: in these emotional expressions he stood alone, although their beginnings could be traced in apes. There was as great a difference between the emotional life of a man and that of an ape as between the music of a grand orchestra and that of a street fiddler. In search of the origin of man's emotional nature Darwin studied the behavior of all kinds of animals, and found among apes the nearest approach to human manifestations. In recent years we had learned much as to the physiology of the emotions, which helped to explain Darwin's theory of man's origin. When thrown into a state of terror, man and animals assumed an instinctive posture and expression. We now knew that in such states the blood was flooded with the hormone of the suprarenal glands. The love potion of the medieval romance was not such an impossibility as was supposed, for we had discovered that Nature held the secret. Those who spoke of the intoxication of love were nearer the mark than they knew.

Epidemic Encephalitis

Between April 1, 1920, and March 31, 1921, 1,572 cases of lethargic encephalitis were reported in England and Wales. The deaths during this period, so far as is known, amount to 495. Jan. 1, 1919, the disease was made compulsorily notifiable.

Vital Statistics

A sharp decline in the number of marriages, which occurred at the end of last year, shows how severely the financial position reacts on social life. The number of persons married during the last quarter of the year was 36,098 fewer than in the preceding quarter, and 19,534 fewer than in the fourth quarter of 1919. The year 1919, the last of the "boom" years following the war, showed a large number of marriages, and it seemed that 1920 would do the same until the break in trade occurred. The incidence of taxation, unemployment, and the excessive cost of everything has made marriage very difficult. The birth rate for the first quarter of 1921 was 22.6 per thousand of population, the lowest for any first quarter since the establishment of civil registration, excepting the first quarters of the war years 1916-1919. We are beginning to find that excessive taxation kills more than industry—home life and child life. The death rate is also the lowest ever recorded in the first quarter of the year, being 13.9 per thousand of population. For comparison, the rates in the first quarters of the following years were: 1914, 16; 1915, 20.1; 1917, 19.3; 1918, 16.4; 1919, 21.2; 1920, 14.7. Influenza accounted for 2.5 per cent. of the mortality. The infant mortality per thousand births was 101, being 17 per thousand below the average in the preceding ten first quarters.

MADRID

(From Our Regular Correspondent)

May 4, 1921.

Mayors Are Personally Responsible for the Payment of Town Physicians

The lawsuit, brought by Dr. Zurita, town physician of Algeciras, against the mayor of the same town to compel him personally to pay his salary, was finally appealed to the first division of the supreme court, which decided that the mayor must pay out of his own pocket the back salary so far unpaid by the municipal authorities. Hereafter, every town physician will have a sure way to collect his salary, and mayors will espouse their cause so they may not be compelled to provide their own funds.

Dr. Escudé's Death from Allergy Caused by Tuberculous Antigen

Dr. Escudé, head of the research laboratory of the medical school of Madrid and the Niño Jesús Hospital, was a conscientious and well known research worker. He was still young, about 40 years old, when he died suddenly, leaving his widow and two daughters absolutely penniless. Dr. Escudé had a few days ago some slight trouble and, as customary with physicians, he became alarmed and went for advice to some of his colleagues. One of them who specializes in tuberculosis found something abnormal in the apex of a lung and advised him to take injections of "partigens," a substance he had used in many patients. Partigens are tuberculous antigens deprived of the water-soluble substances which apparently cause the toxic fever observed when tuberculin is injected. "Partigens" are divided into four groups: one, proteinic; another, lipoid; the third containing the waxy matter of the bacillus, and the fourth apparently including the first three groups. When the injection of "partigens" was first suggested to Dr. Escudé, he was opposed to it; but his friends were so insistent that he finally agreed to their suggestions. After the first injection, the general reaction was accompanied by intense hemolysis and marked purpura. Finally, he died after a few days of uncontrollable hemorrhages, loss of blood through the eyes, nose and mouth, and more than forty melenae in twenty-four hours. Referring to this case, Professor Pittaluga read at the Royal Academy of Medicine a paper discussing some cases of allergy following injections of analogous substances, including two patients treated with tuberculin, who had serious purpuric manifestations after each injection.

Dr. Marion's Lecture on Prostatectomy

The famous surgeon of Lariboisière Hospital of Paris, Dr. Marion, on the invitation of the Royal Academy of Medicine, gave a lecture on the principles and indications of prostatectomy. After describing the anatomy and pathology of prostatic enlargement, Dr. Marion dwelt on the importance of the bacteriologic urinalysis. The surgeon should never confine himself to a chemical analysis and determination of Ambard's constant. He said that whenever there are streptococci, even if the germs are few and the urine may seem virtually normal, there is danger of the patient's losing his life through a postoperative infection. He advocates the two-step

operation as less dangerous. He laid stress on the need of dilating the bladder to the utmost. He performs enucleation by introducing the finger inside the urethra, tearing the mucous membrane on its interior aspect and passing immediately to the layer in which enucleation is to be carried out. He advises the removal of all parts of the vesical mucous membrane covering enucleated adenomas to avoid leaving any mucous bundles which may perpetuate retention and compel other operations. In taking out the adenoma, he is very careful to use the nail previously at the bottom without pulling the pseudoprostate so as not to tear away any part of the mucous membrane of the urethra, as this afterward on healing might cause complete urethral occlusion. After the operation is over, the prostatic cavity should be reexamined to remove any secondary adenomas which in time might cause the so-called recidives of the prostatic enlargement. These are not such, but adenomas remaining from the first operation. Next he plugs the prostatic cavity with gauze. While this is not easy, it seems essential in order to prevent primary hemorrhages. The postoperative period is divided by him into hemostasis, contraction of the wound, occlusion of the wound and healing of the prostatic cavity. He applies continuous irrigation with Marion's tube whenever the temperature rises. No patient prostatectomized should be considered cured until the prostatic cavity has healed. If healing is delayed, daily washings or instillations are made with silver nitrate to prevent infiltrations. Next he uses a permanent rubber tube with several openings.

As to indications, he stated that prostatectomy should be made in all retention cases whenever a catheter is required. Retention is a danger, as the subject may become infected and his renal function impaired. He recalled the fact that Albarrán had examined histologically 100 prostates he operated on for adenoma, and found fourteen cases of epithelioma. Physicians and surgeons do not hesitate in advising the removal of a breast adenoma to prevent its becoming an epithelioma. If they apply the same rule to other parts of the body, and there is no reason on the contrary, they will also advise extirpation of prostatic adenomas to prevent its malignant transformation.

PARIS

(From Our Regular Correspondent)

May 13, 1921.

Prophylaxis of Typhoid Caused by Oysters

Dr. Courtois-Suffit, physician to the hospitals of Paris, recently presented, in collaboration with his intern, M. F. Bourgeois, an important communication to the Academy of Medicine on the hygienic and prophylactic measures that should be taken to prevent the transmission of typhoid fever by oysters and other edible mollusks. The proposed measures comprise: (1) sterilization; (2) organization of scientific hygienic and bacteriologic control of oyster establishments, and (3) supervision of the handling and marketing of oysters. By the sterilization process the oysters in the shell are rid or are supposed to be rid of their bacteria and impurities and thus made fit for human consumption. Unfortunately, experience has shown that the sterilizing procedure, while perfectly efficacious when confined to the domains of laboratory research, is absolutely inadequate when applied on a large scale to the oyster industry. The results, therefore, of sterilization cannot be depended on, and, in addition, a permanent control as outlined by the second and third procedures should be instituted. Instead of seeking to render edible the oysters and other shell-fish that are supposed to be pathogenic, it would be much more logical to see to it that oysters grown in foreign countries (Holland more particularly) do not become contaminated during their growth and their distribution. Some attempts have already been made in this direction. At the present time, in France, however, there are no legal enactments requiring wholesale dealers in oysters to submit to the hygienic control of their establishments and to a bacteriologic inspection of their products. It is true that the Office scientifique des pêches (bureau of fisheries), a subordinate department administered by the minister of the merchant marine, will, on request of oyster cultivators who so desire, exercise such scientific control. This government bureau will make repeated bacteriologic analyses of oysters and of oyster grounds. Its representatives will visit oyster establishments and give advice in regard to needed hygienic modifications, but their recommendations are purely of an advisory nature, since oyster cultivators are under no legal obligation to carry out their suggestions. It would seem desirable to make such control obligatory and to demand that every shipment of oysters shall be accompanied by a certificate attesting to the perfect hygienic conditions under which the product was produced. In certain regions of the south, and especially along the Mediterranean Coast, there are two methods of preserving oysters practiced that are equally reprehensible and dangerous. The first consists of putting oysters which are brought in from the ocean in a healthy condition, and which it is desired to keep for later consumption, in reservoirs in the Mediterranean. Various investigations have shown that these reservoirs are almost invariably located in unhealthy zones—near the entrance to a port or in the vicinity of sewer outlets. A second even more pernicious practice consists in immersing in the waters of the port nets containing the oysters that have already been contaminated by passing through the reservoirs, in case any have been left over from the day's sale, in order to keep them alive another day. This practice also leads to contamination, and it should be absolutely prohibited. The establishment of reservoirs should be strictly controlled, and, in fact, rehandling of oysters should be reduced to a minimum. It would be equally desirable, in the cities, that the services established for the suppression of fraud and which are authorized to seize oysters and shell-fish when found unfit for consumption should also be empowered to test these products as regards their bacteriologic purity.

Relative Immunity of Infants to Measles

Dr. Weill, professor of clinical medicine in the medical school of the University of Lyons, reports his observations, together with Dr. Bocca, on the evolution of an outbreak of measles in a day nursery that, after the second case developed, was entirely closed to outside contamination. Although the children were disposed in cubicles and were thus separated from one another except for the fact that the cubicles were open at the top, nevertheless twenty-two out of the thirty-three children were stricken with the disease. It is worthy of note that the eleven children who did not take the disease were all under 6 months of age, whereas the twenty-two who did come down with it were all more than 6 months old. The same prophylaxis was employed in the case of all, and in an annex that was not divided off into cubicles only children under 6 months of age remained free from the disease. This immunity is possibly transmitted to the child by its mother, who may have acquired it by a previous attack. According to Weill, the same thing is true of scarlet fever. A mother with scarlet fever may even nurse her child; she seems to immunize it. As for whooping cough, it appears in an exceedingly grave form in children about a year old, but is of an equally mild type in infants from 4 to 5 months old.

A Spanish Medical Delegation at Paris

With the view of establishing closer medical relations between France and Spain, the Ecole catalane pour le développement des études médicales en France recently sent to Paris an important delegation composed of twenty-three

visitors. During each day of their stay, either they were invited to visit our hospital services, or clinical lectures were given for their especial benefit. On certain occasions, Professors Corachan, Bartina, Moralez and Ribas were called on to explain some of their methods or to perform certain surgical operations.

Election of the General Secretary of the Academy of Medicine

The Academy of Medicine has just elected its general secretary, who serves for five years. In accordance with recent modifications of the by-laws of the academy, the general secretary will take the place of the perpetual secretary of former years. On the first ballot, Dr. Achard, professor of the school of medicine of the University of Paris and already acting in the capacity of annual secretary, was chosen general secretary.

BERLIN

(From Our Regular Correspondent)

May 14, 1921.

Limits of Conservative and Surgical Treatment of Tuberculosis of the Bones and Joints

At the Berlin meeting of the Deutsche Gesellschaft für Chirurgie, Professor Bier of Berlin and Professor König of Würzburg presented surveys on the subject of the limits of conservative and surgical treatment of tuberculosis of bones and joints. According to Bier's opinion, operative treatment is justified only in exceptional cases: in threatening amyloid degeneration, in complicating sepsis, and in grave cavernous lung involvement with a concomitant severe type of joint infection. In all other cases conservative treatment is indicated. In Bier's service, extracapsular bone foci are no longer given operative treatment. Sequestrums, even though they may be infected, are resorbed and do not need to be removed through operation. Subluxated knee joints should not be resected but should be gradually reduced by proper extension and suspension. Cold abscesses are usually left untouched. At most, they are sometimes incised, but no injections are made. Hypostatic abscesses developing from the spinal column should not be opened. Bier does not recognize any indications for the Albee operation. Nor does age (over 50 years) constitute an absolute indication for operative intervention. However, he recommends amputation in the presence of a grave type of suppuration in joints in elderly persons. Heliotherapy, passive hyperemia and internal administration of iodin are the three means by which the cure of even severe types of surgical tuberculosis can be effected. The pigmentary substance that appears in the skin following the application of heliotherapy is derived from hemoglobin and is a sign that protein bodies are being decomposed. It is thus a process similar to that which occurs in connection with proteotherapy. The effect of the sun on the diseased joint cannot be regarded as a local specific action but rather as a general influence whereby the defensive forces of the organism are aroused. Along with heliotherapy, passive hyperemia is still employed and produces good results, provided the dosage is correctly adjusted. To prevent cold abscesses from arising and the formation of excessive granulation tissue, he resorts to the internal administration of iodin. Tuberculin is often successfully used for therapeutic purposes in ambulant policlinic practice. He has seen no good results from the Friedmann treatment, although at first he looked upon it with favor, as it seemed to harmonize with Koch's and Behring's ideas. He opposes vigorously the use of fixation apparatus. Patients suffering from tuberculous conditions involving the lower extremities should be put to bed and given heliotherapeutic treatment in bed or they should be treated with suspension splints; but, from the start, as soon as the pain has begun to recede, systematic exercises must be instituted. It is a false assumption that only the sunshine of mountainous regions exerts a markedly favorable effect. Even in the lower altitudes (as is proved by the successful results secured in Hohenlychen near Berlin), if the proper dosage is given and adequate protection against the wind is provided, worth-while effects can be secured. Up to the present time, between 1,300 and 1,400 cases have been treated at Hohenlychen with equally as good results as are secured in mountain climates, as was demonstrated by a number of roentgenograms, from which the mode of suspension treatment and the resorption of sequestrums can be viewed. The attempt is now about to be made to utilize more widely the experience gained at Hohenlychen by erecting on one of the drill grounds in the outskirts of Berlin a temporary shelter and accommodations for 400 patients suffering from tuberculosis of the upper extremities, lupus or tuberculosis of the glands. The patients are to remain here during the daytime, and at night are returned to their homes. The healing of a local focus of infection does not, however, afford the patient protection against a general infection or against the appearance of a focus elsewhere in the body. For example, fourteen patients died at Hohenlychen from tuberculous meningitis. Among the 1,300 to 1,400 patients at Hohenlychen, there have been fifty-four deaths, eighteen of which were due to amyloid degeneration, which cannot be diagnosed. Severe toxic nephritis may also disappear under heliotherapeutic treatment. Of late, Bier has treated also pulmonary tuberculosis in this manner. He regards as untenable the objection that congestion of the lungs is liable to follow sun treatment. That, of course, all depends on the dosage, as is true, in general, in regard to heliotherapy. In combating tuberculosis, prophylaxis constitutes an important factor. For this purpose physical training is important and must keep pace with mental development. Sun baths and gymnastic exercises, with the body nude, are helpful; and, since compulsory military service has been abolished, are more essential than ever. It was with the purpose in mind of developing a sturdy race, free from any tendencies to tuberculosis, that collegiate courses in body gymnastics have recently been established.

Professor König, on the other hand, cannot accept Bier's strictly conservative attitude. Answers to a questionnaire submitted to twenty-two of the leading surgeons of the country reveal the fact that they are divided into three groups with respect to this question. Bier proved to be the sole representative of the extremely conservative standpoint, although a large number of other surgeons favor conservative treatment during the juvenile period. A second group recommends a reasonable trial of conservative treatment; but, if this fails, operative treatment is advocated. It is noteworthy that even surgeons in mountainous regions favor a more active procedure than Bier. Then, again, there is a third group that is more inclined to resections and amputations. They demand, however, clear indications for surgical intervention. Local foci in bones, especially if near a joint, they maintain, should be removed. If the focus of infection perforates into the joint, resection is indicated. In the presence of grave mixed infection, immediate operation is required. Surgical intervention, this group further asserts, is justifiable if suppurative processes that are progressive are diagnosed. Resection is not contraindicated in elderly persons. It is worthy of note that insurance companies are opposed to conservative treatment by reason of its long duration, which, they believe, exerts a bad influence on the psyche of the patients. Resection, the end-results of which can be improved by opening the capsules (after pursuing a waiting policy as long as possible) and treating the opened joint with phenol-camphor, iodoform or Lugol's solution, must, however, be regarded as only an episode in the general treatment of tuber-

culosis, and, in addition to surgical treatment, we must give the patients the full benefit of the sun and the air.

Typhus Fever Research

Before the Mikrobiologische Gesellschaft of Berlin, Professor Friedberger (Greifswald) delivered an address recently on the exciting organism of typhus fever, following which the subject was discussed at length. Although numerous experimental investigations on the etiology of typhus fever were undertaken in many countries during the war and have been continued since its close, they have as yet resulted in no common agreement. Most investigators hold the view that very minute coccus-like organisms, which are found in large numbers in the intestine and in the intestinal cells of the louse and which were termed "rickettsia" by Rocha-Lima (Hamburg), are the causative agent of typhus fever. It is no longer denied that this disease, which during the war claimed so many victims in the armies and among the civil population of the lice-infested areas of the Southeast (Russia, the Balkans, Asia Minor), is transmitted by lice from person to person. A few bacteriologists, the principal representative of which group is Professor Friedberger, declare that the exciting organism of the disease is the bacillus known as X-19, which was first isolated by the Austrian bacteriologists Weil and Felix from the bodies of typhus fever patients; and, indeed, it is possible by the demonstration of the presence of this bacillus alone to establish a serologic diagnosis of typhus fever. A small quantity of the blood serum of typhus fever patients gives, in a very high dilution, an exceptionally well marked reaction with this bacillus, in much the same way as the blood serum of typhoid patients with *B. typhosus*. However, all endeavors to prove that the bacillus X-19 is identical with the specific cause of typhus fever have thus far been unavailing, as it has been impossible by means of a culture of the bacillus X-19 to produce a similar disease process in an appropriate experimental animal such as the guinea-pig, although the disease can easily be produced by the injection of the typhus fever virus found in the blood of a typhus fever patient. Further investigations must be made before any clarity can be reached. It remains a strange biologic fact that the bacillus X-19, almost without exception, reacts on the blood serum of typhus fever patients but not on that of normal subjects. Thus, the reaction discovered by Weil and Felix has at least acquired an important significance in combating epidemic outbreaks of the disease.

Marriages

WILLIAM BOWERS WATTS, JR., Miami, Ariz., to Miss Vera Claire of Byromville, Ga., April 27.

LOUIS FRANKLIN TALLEY to Miss Meta Lillian Watson, both of Marshalltown, Iowa, March 27.

ISIDOR S. RAVDIN to DR. ELIZABETH GLENN, both of Philadelphia, at Franklin, Pa., June 3.

CHARLES EDWARD HAMILTON, New York, to Miss Amelia B. McCallum of Brooklyn, June 9.

ROBERT CHARLES OLNEY, Lincoln, Neb., to Miss Lillian Yunger of Cincinnati, April 28.

BENJAMIN J. READ to Miss Chloe Dymple Spriegel, both of Red Jacket, W. Va., June 8.

HUGH S. MCGUINESS, Athens, Wis., to Miss Marguerite Hall of Chicago, June 8.

GEORGE PINESS, Los Angeles, to Miss Hortense Weil of San Francisco, April 19.

PHILIP LEWIN to Miss Merriel Mayme Abbott, both of Chicago, May 26.

MORRIS K. SILBERMAN to Miss Alice Levy, both of New York, June 7.

EARL L. BAUM to Miss Agnes Sundlie, both of Milwaukee, May 26.

Deaths

Oscar Davis ⊕ Austin, Texas; Medical Department of the Fort Worth University, 1898; member state legislature; formerly assistant state health officer aiding in organization of the bureau of public health education, communicable diseases, public health nursing and child hygiene, being for a time director of the latter; director of the bureau of venereal diseases, 1919-1920; found dead in bathtub wit hthroat cut, at hospital where he had come for treatment, May 25, aged 62.

Johnson McKee Sites, Martinsburg, W. Va.; New York University College, 1885; New York University College, 1904; member West Virginia Medical Society; at one time president of the Eastern Panhandle Medical Society, of which he was elected an honorary member for life; member city hospital faculty; member and president state board of examiners of nurses; died, May 23, after a long illness, aged 59.

Howard Williams Longyear ⊕ Detroit; Columbia College, New York, 1875; member American Surgical Society and American Gynecological Society; professor of gynecology, Detroit College of Medicine, and consulting physician to Woman's Hospital, consulting gynecologist to Providence Hospital and consulting surgeon to Harper Hospital; died suddenly, June 2, aged 67.

Frederick A. Tucker, Noblesville, Ind.; Rush Medical College, 1897; member Indiana State Medical Society; lieutenant-colonel, U. S. Army, World War, in charge of Base Hospital No. 1, near Paris, for eighteen months; died, June 7, following an operation for appendicitis, aged 48.

Melamed Ovidin, National Soldier's Home, Me.; Temple University, Pa., 1909; served overseas as captain, M. C., U. S. Army, World War; surgeon, Home for Disabled Veteran Soldiers; shot and instantly killed, May 25, by an insane soldier in the hospital, aged 42.

Charles A. Stillwagen ⊕ Pittsburgh; Jefferson Medical College, 1892; postgraduate courses in Berlin and Vienna; member surgical staffs of Pittsburgh and Columbia hospitals, Philadelphia; captain, M. C., U. S. Army, World War; died, June 4, after a long illness, aged 55.

John Edward Hays, Louisville, Ky.; College of Physicians and Surgeons, Kansas City, Mo., 1878; professor of dermatology and syphilology, University of Louisville, 1908-1909; died, from pneumonia, at St. Edward's Hospital, New Albany, Ky., May 21, aged 65.

James Albert Meek ⊕ Norwalk, Conn.; McGill University, Montreal, Canada, 1875; first president, Canadian Society of New York; author of books and brochures on afflictions of the eye, ear, nose and throat; died, May 30, from cerebral hemorrhage, aged 73.

George Elmer Horton, Shelbyville, Tenn.; University of Chattanooga, Tenn., 1908; major, Three Hundred and Fourth Field Artillery during World War, given special discharge, 1918; was shot and killed at Wartrace, Tenn., May 23, aged 43.

Bache McEvers Emmet, New York; Columbia University College of Physicians and Surgeons, New York, 1867; great grandson of the Irish patriot Robert Emmet; died, May 27, at his country home, Ridgefield, Conn.

M. E. Neely, Walterhill, Tenn.; University of Louisville, Ky., 1870; veteran of the Confederate army; at one time member of state legislature; died, May 25, from heart trouble and Bright's disease, aged 78.

William Henry Spicer, New York; New York Homeopathic Medical College and Flower Hospital, 1910; at one time member staff of the Flower Hospital; died, June 6, from bronchitis and heart trouble, aged 57.

Joseph Robinson, Nevada, Mo.; Jefferson Medical College, 1875; at one time superintendent Missouri State Hospital No. 3; died, April 9, from prostatic disease, at the Nevada Sanatorium, aged 74.

John Dattle Carter, Wadley, Ga.; University of Georgia Medical Department, 1905; died in hospital, Elco, Nev., May 20, crushed while working on highway in hope of recovering his health, aged 38.

Nelson Gaddy Harrod, Tampico, Ind.; Kentucky University, Louisville, Ky., 1904; killed instantly when automobile in which he was riding was struck by train, May 31, aged 50.

Moulton J. Kline, Orefield, Pa.; University of Pennsylvania, 1875; at one time member of the Pennsylvania state legislature; died, May 15, at Center Valley, from uremia, aged 66.

⊕ Indicates "Fellow" of the American Medical Association.

Robert D. Weaver, North Middletown, Ky.; Louisville Medical College, 1871; surgeon in Civil War; practicing physician for more than fifty years; died, May 18, aged 72.

Jesse Albert Bolin ✠ Philadelphia; Jefferson Medical College of Philadelphia, 1881; coroner's physician in 1910; died, May 22, after an illness of thirteen weeks, aged 65.

William T. Johnson, Eldorado, Ill.; Missouri Medical College, 1894; member of Illinois State Medical Society; died, May 24, from carcinoma of the stomach, aged 54.

Job Robert Mansfield, Germantown, Pa.; Hahnemann Medical College of Philadelphia, 1879; member of the Pennsylvania Medical Society; died, May 28, aged 66.

George Franklin Mason, Milwaukee; Milwaukee Medical College, 1901; member Wisconsin State Medical Society; died, May 13, from Bright's disease, aged 67.

Henry Harper Greene, Paines Hollow, N. Y.; Geneva (N. Y.) Medical College, 1859; a member of New York legislature, 1892-1893; died, May 9, aged 84.

Robert Burns Waddy, Lexington, Ky.; Kentucky School of Medicine, Louisville, 1891; at one time mayor of Lexington; died in New York, May 31, aged 67.

Roland Fisher Thomas, Greenburg, La.; Medical Department, University of Louisiana, New Orleans, 1904; died, May 9, at New Orleans, aged 38.

John W. McCausland, Fort Wayne, Ind.; Rush Medical College, 1870; died, from disease of the throat, at St. Joseph's Hospital, May 31, aged 65.

Asa P. Taylor, Lexington, Ky.; Medical College of Ohio, Cincinnati, 1878; died suddenly, May 22, from neuralgia of the heart, aged 65.

Edward H. Thomas ✠ Argenta, Ill.; Columbia University College of Physicians and Surgeons, New York, 1883; died, May 22, aged 62.

Charles S. Valcour, Nashua, N. H.; Baltimore Medical College, 1895; member Nashville board of education; died, May 21, aged 49.

Eliza Grady, Eastport, Me.; New York Medical College and Hospital for Women, 1901; died, April 12, from angina pectoris.

Nimrod T. Clark, Olympia, Ky.; Medical Department, University of Louisville, Ky., 1892; died, May 24, from sepsis, aged 71.

Rufus G. Williams, Dallas, Texas; University of Louisiana, New Orleans, 1870; Confederate veteran; died, May 24, aged 76.

Union Worthington, Salt Lake City; Tulane University of Louisana, New Orleans, 1886; died, May 30, of tuberculosis, aged 59.

Leander Dewees ✠ Kokomo, Ind.; Kentucky School of Medicine, 1894; a Confederate veteran; died, May 14, aged 74.

Richard William Wooten, Kinston, N. C.; University of Virginia, Charlottesville, Va., 1870; died, May 20, aged 72.

Joseph Matteson, Chicago; North Western University Medical School, Chicago, 1878; died suddenly, June 1, aged 72.

John B. Finch, Dresden, Tenn.; Vanderbilt University, Nashville, Tenn., 1887; died suddenly, May 19, aged 65.

Nelson I. Hess, Bells, Tenn. (license, Tennessee, 1889); a practitioner for over thirty-five years; died, May 14.

Samuel Paul Vaughter, Little Rock, Ark.; University of Arkansas, Little Rock, 1892; died, May 4, aged 50.

Christian H. Hermann, Amana, Iowa; State University of Iowa, Iowa City, 1881; died, March 6, aged 72.

Van O. Edmundson, Bethel, Tenn.; Vanderbilt University, Nashville, Tenn., 1880; died, May 19, aged 60.

Shelby Wright, North Manchester, Ind.; Louisville (Ky.) Medical College, 1882; died, May 21, aged 63.

Henry J. Connor, Chippewa Falls, Wis.; Rush Medical College, 1883; died suddenly, April 23, aged 62.

John H. Seneff, French Lick, Ind. (license, Indiana, 1897); died, May 23, from paralysis, aged 67.

Herman H. Voss, Racine, Wis.; University of Giessen, Germany, 1879; died, May 26, aged 66.

William H. Mathis, Waverly, Kan.; St. Louis Medical College, 1867; died, May 23, aged 81.

Anna Laura Miller, Chicago; Chicago College of Medicine and Surgery, 1914; died, June 9.

Albert D. White, Gainsville, Ga.; University of Georgia, 1887; died, April 20, aged 59.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MON-ARSONE NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Mon-Arsone is offered by the Harmer Laboratories Company as "a new and non-toxic arsenical for the treatment of syphilis." In the advertisements for Mon-Arsone it has been claimed that with this drug "the toxic, corrosive and uncertain reactions attending the use of arsphenamine have been entirely eliminated" and that "it has a therapeutic value equal to arsphenamine, but extensive case reports fail to record the slightest toxic reaction following its use."

According to the manufacturers, Mon-Arsone is disodium-ethylarsonate, the sodium salt of ethylarsonic acid, derived from arsenic acid by replacement of one hydroxyl group by the ethyl group — $AsO(CH_2CH_3)(OH)_2$. Mon-Arsone is related to sodium cacodylate, which is the sodium salt of dimethyl-arsenic acid—$AsO(CH_3)_2OH$—derived from arsenic acid by replacement of two hydroxyl groups by two methyl groups. Ethylarsonic acid and its potassium salt were described by La Coste[1] more than thirty-five years ago, and the use of the sodium salt of methylarsonic acid was proposed in France some years ago. The Harmer Laboratories Company claims originality for Mon-Arsone in that it was the first to prepare the sodium salt of ethylarsonic acid and to propose its therapeutic use.

It was reported several years ago by Castelli[2] that sodium cacodylate and the sodium salt of methyl arsenic acid were devoid of effect on experimental trypanosomiasis and spirochete infections. Careful clinical observations in this country by H. J. Nichols[3] and H. N. Cole[4] have demonstrated the inefficacy of sodium cacodylate in the treatment of human syphilis.

Animal experiments carried out in the U. S. Hygienic Laboratory by Voegtlin and Smith[5] show that Mon-Arsone is devoid of any practical trypanocidal action. Thus the "therapeutic ratio" (the ratio of the minimal effective dose to the lethal dose) was about 1, that is, it was effective therapeutically only in approximately fatal doses; the therapeutic ratio for arsphenamine in similar conditions was 17, and that of neoarsphenamine, 28.

The findings that sodium dimethylarsenate (sodium cacodylate), sodium methylarsenate, and sodium ethylarsenate are devoid of any practical trypanocidal action and the conclusion that sodium cacodylate is inefficient in the treatment of human syphilis does not prove that Mon-Arsone is without effect on the disease. These findings, however, certainly demand convincing therapeutic evidence to warrant the recommmendation for the use of the drug in the treatment of syphilis—particularly because the drug is proposed as a substitute for arsphenamine, the value of which is established.

When the Council first took up the consideration of Mon-Arsone, the only evidence for the claim that it "has a therapeutic value at least equal to that of arsphenamine" consisted, with one exception, of reports from those who had experimented with the drug for the Harmer Laboratories Company, including a report by B. L. Wright, L. A. Kennell, and L. M. Hussy,[6] the latter of the Harmer Laboratories Company. These reports appeared to show that the administration of

1. La Coste: Annalen der Chemie (Liebig's) **208**: 34.
2. Castelli, G.: Arch. f. Schiffs- u. Tropen-Hyg. **16**: 605, 1912.
3. Nichols, H. J.: Salvarsan and Sodium Cacodylate, J. A. M. A. **56**: 492 (Feb. 18) 1911.
4. Cole, H. N.: A Study of Sodium Cacodylate in the Treatment ot Syphilis, J. A. M. A. **67**: 2012 (Dec. 30) 1916.
5. Voegtlin, Carl, and Smith, H. W.: J. Pharmacol. and Exper. Therap. **16**: 449, 1921.
6. Wright, B. L.; Kennell, L. A., and Hussey, L. M.: M. Rec. **97**: 607 (April 10) 1920.

Mon-Arsone caused less reaction than arsphenamine, and that the immediate effects, judged by clinical symptoms and the response to the Wassermann test, appeared to be good. These trials extended over too short a period of time to permit judgment as to the permanence of the results. A report by an independent observer seemed to indicate that Mon-Arsone does not have the sterilizing action on syphilitic lesions which it is usually believed arsphenamine exercises.

After examining the available evidence, the Council advised the Harmer Laboratories Company that the claim that Mon-Arsone has a therapeutic value equal to arsphenamine appeared unwarranted; that, in the opinion of the Council, Mon-Arsone should not be used except under conditions that justify the experimental trial of an unproved drug, and should not be used in a routine way until the permanence of its effects has been established; and consequently any advertising propaganda for the drug by the Harmer Laboratories Company was to be deprecated.

In its reply the Harmer Laboratories Company admitted that its advertising claim, that Mon-Arsone was at least equal to arsphenamine therapeutically, had been based on reports on fifty cases and on additional reports that were beginning to come in at that time. The Harmer Laboratories Company submitted a list of hospitals and physicians using Mon-Arsone. A letter of inquiry sent by the Council to those who, according to the names in the list supplied by the Harmer Laboratories Company, had used Mon-Arsone, brought seven replies.

The clinical evidence contained in these replies was to the effect that Mon-Arsone had been used in the various types of syphilis and that there was a certain beneficial effect, both clinically and as shown by the Wassermann reaction. In certain instances the Wassermann reaction changed from a four plus to a negative reaction. The reports showed that the efficiency of Mon-Arsone as compared with that of arsphenamine preparations has not been adequately studied. One physician who has used Mon-Arsone extensively reports that in many of the cases treated there seemed to be nearly as good results from the use of Mon-Arsone as is frequently obtained in the use of arsphenamine. He reports, however, that it was necessary in eleven out of one hundred cases to change from Mon-Arsone to neoarsphenamine.

In view of the fact that there is definite lack of evidence to show that Mon-Arsone is the equal of arsphenamine therapeutically, and because of the reports that in some cases it is inferior, Mon-Arsone should not be used in the treatment of syphilis generally until its therapeutic status has been more rigidly investigated and conclusive evidence of its superiority to arsphenamine preparations obtained.

The Council voted not to admit Mon-Arsone to New and Nonofficial Remedies and reaffirmed its conclusion that the claim that Mon-Arsone has a therapeutic value equal to that of arsphenamine is premature and unwarranted; that Mon-Arsone should not be used except under conditions that justify the experimental trial of an unproved drug; and that the advertising propaganda for the drug by the Harmer Laboratories Company is to be deprecated.

When the preceding report was sent to the Harmer Laboratories Company, the firm submitted a reply in which it was stated:

1. That in certain instances patients improved under Mon-Arsone who, previously, had not improved under arsphenamine, and that this should be taken to offset the report of the one hundred cases in which the use of Mon-Arsone had to be abandoned in 11 per cent. of the cases.

2. That the Harmer Laboratories Company has abandoned the claim that Mon-Arsone is therapeutically equal to arsphenamine and that it now furnishes the drug to such men as care to use it simply on the basis of its special and useful characteristics.

The Council heartily endorses the recent warning against the use of untried medicaments which was issued by the U. S. Public Health Service.[7]

Since the Council's report was prepared a report on the effects of Mon-Arsone on experimental syphilis has been published by Nichols,[8] from the Division of Laboratories, Army Medical School, which concludes:

"1. Disodium-ethylarsinate, or mon-arsone, tested on rabbits infected with syphilis shows no spirocheticidal power. The tissues are fatally poisoned as soon as or before the spirochetes are affected.

"2. For its practical use in syphilis there is no such germicidal basis as exists in case of the arsphenamine group."

7. J. A. M. A., June 12, 1920, p. 1654.

8. Nichols, H. J.: The Spirocheticidal Value of Disodium Ethyl Arsinate (Mon-Arsone), J. A. M. A. 76: 1335 (May 14) 1921.

Correspondence

ENDOCRINOLOGY AND PSYCHANALYSIS

To the Editor:—Permit me to express my appreciation of the editorial "The Endocrine Glands—A Caution" (The Journal, May 28, 1921, p. 1500). I received the other day a reprint on the endocrine glands by a New York physician. Scattered through its pages are twenty-two statements. Only three may be said to be scientifically established; the rest are mere assertions, without a scintilla of experimental or clinical proof behind them.

Our profession is extremely prone to run after fads, and is apt to take hypotheses for established truths, assertions for proofs, the reiterated opinion of one man for the consensus of opinion of the scientific world, post hoc for propter hoc, and the results obtained in one case for results universally obtainable in related cases. Endocrinology holds out great promises; but it must not be allowed to become discredited by the reckless statements of uncritical enthusiasts.

There is but one other branch of medicine, besides endocrinology, which is burdened with so many wild and reckless statements, so many absurd exaggerations, so many tenuous hypotheses passed around for accepted and proved facts, such blind following of unquestionably erudite but bizarre leaders. That branch is psychanalysis. This is a great pity, for that branch of medicine or psychotherapy contains germs of great truths and wonderful possibilities for good in the treatment of various neuroses. But it is being run to death by overenthusiastic or overcommercial physicians, and ignorant, poorly equipped and unscrupulous laymen and laywomen.

It could hardly be successfully gainsaid that at the present moment psychanalysis does more harm than good, is more of a menace than a blessing. And while the same may not be asserted of endocrinology, there is no question that the indiscriminate administration of pluriglandular mixtures when the indications are not clear but only surmised—and they are being so administered—is fraught with possibilities of harm.

William J. Robinson, M.D., New York.

"THE MEDICAL PROFESSION AND THE VOLSTEAD ACT"

To the Editor:—In The Journal, June 4, is a letter from a number of prominent New York physicians protesting against the restrictions with respect to prescribing alcohol put upon physicians under the Volstead Act. That array of distinguished names carries weight and inspires the timid dissident with misgivings. The argument is not so formidable as the list of names affixed to the letter is imposing.

That alcohol has medicinal value has not been demonstrated. The faith in its virtue is inherited rather than proved. Until that point is settled, physicians need not be unduly alarmed over encroachments on their sacred prerogative of prescribing anything they may believe to be of value regardless of the fact of its having any virtue.

It is not a necessary inference that the law recognizes the medicinal value of alcohol. The provision that a certain

amount may be prescribed should be regarded rather as a concession to the prejudices and traditions of physicians than as an admission of its value.

That the restriction is in a measure an indictment of the profession is true. But can we say that our skirts are clear? Are there not among us many who so shamefully abuse the privilege accorded us that we well merit the distrust that is visited upon the profession as a whole? How many medical societies are there that will hold a physician strictly to account for even flagrant violation of the trust reposed in us by the law? Let us purge ourselves before we make complaint. There are many physicians who do not take out a permit at all that they may escape the importunities of bibulous patients and friends. We are not in a sufficiently strong position to protest when we are not wholly to be trusted.

The contention that a physician should not be denied the privilege of prescribing alcohol for himself is not sound. It is not well that a physician should prescribe for himself; more especially is this true when it comes to habit-forming drugs, as alcohol. Who was it that said a man that is his own lawyer has a fool for a client? Too often the physician would have a drunkard for a patient.

Even granting that alcohol may have a medicinal value, if the total harm wrought by it be greater than the individual good, then is not the restriction wise? The public has a complete right to put limitations on the sale and use of anything whatsoever when it seems desirable to promote the general welfare. The public may be trusted to have at least a modicum of common sense.

E. W. HUNTER, M.D., Greenwood, Miss.

"LOCAL ANESTHESIA IN OPERATIONS FOR MASTOIDITIS"

To the Editor:—As a former member of the Medical Corps, U. S. Navy, I resent the unfair criticism by Dr. A. S. McCormick of Dr. E. E. Koebbe's article, entitled "Local Anesthesia for Simple Mastoid Operations." Evidently Dr. McCormick does not know or understand naval regulations or naval hospital routine. What does he mean by "supervised" anesthesia, "which permits the administration by anybody and everybody, usually an orderly or other nonmedical persons?"

In all my experience in U. S. Naval hospitals and elsewhere, I never while operating myself or visiting other clinics of operating surgeons in the U. S. Naval hospitals witnessed the administration of an anesthetic by other than a regular graduate M.D. "Supervised" anesthesia certainly never was inflicted on unfortunate "gobs" in my experience. Furthermore, a careful perusal of Dr. Koebbe's article fails to reveal to me wherein he seeks to "impress on readers the awful defects of general anesthesia in goiter." No such reference is made in the entire article.

In view of the Dr. McCormick's unjust comments reflecting on operative routine and procedure, please publish this letter.

ARTHUR WILDMAN, M.D., Brooklyn.

To the Editor:—In THE JOURNAL, June 4, 1921, page 1594, Dr. McCormick, in criticizing the above named article, criticizes the administration of anesthetics as given in the United States Navy. Dr. McCormick does not state from whom he received his information regarding the Navy; but as he has been grossly misinformed, I take the opportunity to correct his statements which, after thirteen years in the Navy, I feel competent to do.

In the first place, there are no orderlies in the Navy. There is a trained hospital corps, some of whom, after many years of service, have become experts at anesthesia. Then, as in civilian hospitals, there are trained nurses who act in this capacity in some hospitals; but more often a medical officer, thoroughly trained in this work, gives the anesthetic.

I have no hesitation in saying that anesthetics are given in the Naval hospitals with as great a degree of skill as anywhere in the United States, and the mortality rate is lower.

I should feel guilty of neglect of duty should I allow the impression that such a condition exists in the Naval Service to go before the public unchallenged.

H. A. GILTNER, M.D., Parkersburg, W. Va.
Lieutenant Commander, Medical Corps, U. S. N. R. F.

To the Editor:—I beg to enter my protest against the publication in the official organ of the American Medical Association of the letter by Dr. A. S. McCormick, printed in the issue of June 4.

His remarks are not in the nature of constructive, helpful criticism such as every honest, earnest worker welcomes. They suggest no solution for a problem of which we are fully cognizant, and entirely ignore the very considerable obstacles in the way of such a solution; obstacles greater even than those existing in civilian communities in the United States, for which no uniform standard has yet been adopted in the matter of anesthetization. I can see in Dr. McCormick's communication nothing more than a return to that casual, inaccurate type of abuse of the medical services of the Army and Navy so common before the war and gradually coming into vogue again as the pleasure and privilege of those who attack large questions in an irresponsible and superficial manner.

It seems to the undersigned that, until some uniformity in respect to the administration of anesthetics prevails in the country at large, the time has scarcely arrived to vilify the Navy on that score, and that while there is ample justification for serious discussion, there is no excuse for circulating inaccurate assertions calculated to mislead the uninformed.

The laws in our various states do not yet agree. Some require an anesthetist to have an M.D. degree. Others do not. The mere right to append these letters to one's name is surely no proof of competence to anesthetize.

The courts usually hold the operating surgeon responsible for the anesthesia—*qui facit per alium facit per se*—and a conscientious surgeon and one alive to his own interests as well as the patient's might easily prefer the untitled expert to the incapable M.D.

In some sections of America the administration of anesthesia is restricted to a small coterie of experts, enjoying a lucrative monopoly. Their services are well worth the fees paid, but it is equally true that in each of these localities there are at least a few persons outside of the ring capable of administering an anesthetic, and fair competition with them would reduce the cost to the patient; the patients who have to consider cost far outnumber those to whom money is no object.

What should be stressed is competence and competence alone. To obtain a license to anesthetize it ought not to be necessary to be a male or an M.D. or to have any given social status, but only to demonstrate competence. We have prominent surgeons in America, surgeons of more than local fame, who have trained up untitled women to act as their first assistants in operating.

The proper administration of anesthetics is considered in the Navy a very important matter, far more important than Dr. McCormick appears to realize. How to procure expert anesthetists is a question in which we shall be glad to have all the intelligent, perfectly disinterested help our well-wishers and even our enemies may proffer after they have familiarized themselves not so much with the "conditions forced on the operator by the Navy," as with those forced on the Navy by the apathy, parsimony and pacifism of the people.

What would Dr. McCormick suggest for emergency operations in the case of a smaller vessel carrying one medical

officer? That a highly qualified professional anesthetist assigned to serve at each naval hospital would be a blessing to the service is unquestionable. Procuring his services is another matter.

Any comprehensive, well-digested scheme for reducing the dangers attendant on anesthesia in the Navy will be well received, provided it takes into account all the restrictions imposed upon the service by the inherent conditions of its organization and a legal status which depends not on the naval personnel but on the people who enact the law and hold the purse.

J. S. TAYLOR, M.D., Washington, D. C.
Captain, Medical Corps, U. S. Navy.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INCREASE OF LARGE MONONUCLEARS — IRRITATION FORMS OF TÜRCK

To the Editor:—1. Can you tell me the significance of an increase in the percentage of large mononuclear cells (transition forms of some authors) in the blood? I have reference especially to those cases showing a pronounced leukocytosis together with a relatively large mononuclear increase. The literature which I have consulted is hazy on this subject. What is the origin of these cells? 2. I would also appreciate an interpretation of the presence of irritation forms described by Türck and their origin.

F. C. HODGES, M.D., Huntington, W. Va.

ANSWER.—1. As to the significance of an increase in the percentage of large monocuclear cells of the blood, it is a difficult matter to give a definite answer, owing to the fact that there is much divergence of opinion as to the origin and development of these cells. It has been said that these types of white cells are "the *bête noire* of the hematologist." They are found in the lymphatic tissue, bone marrow and spleen, which have caused some authors to style them "lymphoid leukocytes," and still others to term them "splenocytes." They are normally increased in the circulating blood of children, owing to the excessive activity of the lymphoid tissue during this period of life, while many adult bloods show an increase in these cells as an indication of such lymphatic activity. It is rational to suppose that any excessive development of lymphatic tissue or of the bone marrow would lead to an increase of these cells, a condition which prevails in certain cases of lymphatic as well as splenomyelogenous leukemia. Just what the true significance of these cells may be in splenomyelogenous leukemia is impossible to state, yet the fact remains that we do find them often increased to a large extent. Further, it is an interesting fact that the large mononuclear cells are actually increased after removal of the spleen, a probable result of the attempt of other lymphoid tissue to compensate for the loss of the spleen. In a general way, therefore, a direct answer to this question is that an increase in the percentage of the large mononuclear cells of the blood is due to increased activity of the lymphoid tissue, whether this be the lymphatic glands, bone marrow or spleen. One must remember, however, that there may be an actual diminution of the percentage values and yet an increase in the actual number of such cells present, a point which is not always taken into consideration in making differential counts of the blood cells.

2. As to the meaning of the presence of the "irritation forms" of Türck, it is to be said that they have probably the same significance as do the myelocytes, that is, an indication of marked activity of the bone marrow, although Pappenheim regards them as plasma cells largely derived from the lymphocytes. For some unexplained reason the bone marrow responds to certain types of stimulation or irritation by the production of myelocytes, as seen especially in leukemia, while other forms of irritation lead to the production of these so-called "irritation forms," which are mononuclear, nongranular cells differing from the granular myelocyte. They are found in the blood especially in long continued leukocytosis or in anemias following cachectic conditions associated with carcinoma, etc., and in conditions in which few myelocytes and erythroblasts are noted in the blood.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. Samuel W. Welch, Montgomery.
ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.
CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.
COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
CONNECTICUT: Hartford, July 12-13. Sec., Regular Board, Dr. Robert L. Rowley, 79 Elm St., Hartford
CONNECTICUT: New Haven, July 12. Sec., Eclectic Board, Dr. James E. Hair, 730 State St., Bridgeport. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover. Sec., Homeo. Bd., Dr. H. W. Howell, 824 Washington St., Wilmington.
ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.
INDIANA: Indianapolis, July 12-14. Sec., Dr. Wm. T. Gott, 84 State House, Indianapolis.
KANSAS: Kansas City, June 21-22. Sec., Dr. H. A. Dykes, Lebanon.
MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 775 Congress St., Portland.
MARYLAND: Baltimore, July 19. Sec., Regular Board, Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.
MASSACHUSETTS: Boston, July 12-14. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.
MICHIGAN: Detroit, June 20-22. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MISSISSIPPI: Jackson, June 21-22. Sec., Dr. W. S. Leathers, Oxford.
NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.
NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.
NEW YORK: Albany, New York City, Buffalo, Syracuse, June 27-30. Assistant, Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.
NORTH CAROLINA: Raleigh, June 20. Sec., Dr. Kemp P. B. Bonner, Morehead City.
NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.
OKLAHOMA: Oklahoma City, July 12-13. Dr. J. M. Byrum, Shawnee.
OREGON: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.
PENNSYLVANIA: Philadelphia and Pittsburgh, July 5-9. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.
RHODE ISLAND: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.
SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
SOUTH DAKOTA: Deadwood, July 19-20. Director of Medical Licensure, Dr. H. R. Kenaston, Bonesteel.
TEXAS: Austin, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.
VERMONT: Burlington, June 28-30. Sec., Dr. W. Scott Nay, Underhill.
WASHINGTON: Olympia, July 12. Commissioner of Licensure, Mr. Wm. Melville, Olympia.
WEST VIRGINIA: Charleston, July 12. State Commissioner of Health, Dr. L. T. Vinson, Masonic Bldg., Charleston.
WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

Hawaii April Examination

Dr. Guy C. Milnor, secretary, Hawaii Board of Medical Examiners, reports the written examination held at Honolulu, April 11, 1921. The examination covered 7 subjects and included 40 questions. An average of 75 per cent. was required to pass. Of the 4 candidates examined, 1 passed and 3 failed.

College	Year Grad.	Per Cent.
PASSED		
University of Michigan Medical School	(1911)	84.5
FAILED		
College of Medical Evangelists	(1916)	60.5, 67
Tokyo Charity Hospital Special Medical School	(1916)*	57.3

* Graduation not verified.

New Mexico April Examination

Dr. R. E. McBride, secretary, New Mexico State Board of Medical Examiners, reports that 12 candidates were licensed on diploma and 1 candidate was licensed by reciprocity, at the meeting held at Santa Fe, April 11-12, 1921.

College	Year Grad.
LICENSED ON DIPLOMA	
University of Alabama	(1908)
Georgetown University School of Medicine	(1918)
University of Louisville	(1892), (1911)
College of Physicians and Surgeons of Baltimore	(1907), (1915)
Barnes Medical College	(1906)
University Medical College of Kansas City	(1897)
Washington University Medical Department	(1917), (1919)
John A. Creighton Medical College	(1920)
University of Pennsylvania	(1913)

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
College of Physicians and Surgeons, Little Rock	(1908)	Arkansas

Social Medicine and Medical Economics

DAYLIGHT IN THE SCHOOLROOM

Abstract of Report of Subcommittee on Conservation of Vision and Lighting in Schools *

EDWARD JACKSON, M.D., Chairman, Denver; MISS KATHERINE D. BLAKE, New York, and JOHN F. KEATING, Pueblo, Colo.

The eye has evolved to meet the conditions of daylight stimulus, and is capable of its highest health and efficiency under its normal conditions. It is well that the bulk of school work is done by daylight. But of late years an immense amount of thought and labor have been expended on the improvement of artificial illumination, while nothing has been done to improve the methods of using daylight. The result is that artificial light is being used in many respects more intelligently than daylight, and only the innate superiority and cheapness of the latter have left it in general use in schoolrooms.

So little has been done to apply our knowledge of the physiology of vision to the requirements for indoor use of daylight that it is necessary to begin with fundamentals. The light which is useful is that which falls upon the object looked at and is thence sent to the eye, where it enters the pupil and is focused on the retina. The thing looked at includes both the thing we wish to see and the background which reveals it by contrast, or color difference. We wish to see the letter, but we also look at the paper with which the letter is so contrasted as to reveal its form.

Light entering the eye directly from the source of illumination, or in any way that does not assist in making distinct the thing we wish to see, is not a help but a hindrance to our seeing. For one thing, it causes contraction of the pupil, and in that way actually diminishes the amount of useful light that enters the eye. For another, it wastefully uses up retinal energy accumulated for the purpose of vision, without helping us to see what we want to see. In the third place, it produces retinal impressions that compete with those that are useful for the attention of the recipient, increasing the effort needed to keep the consciousness occupied with the useful impression.

By variation in the size of the pupil which regulates the amount of light entering through it, and by the process of "adaptation" which adjusts the sensitivity of the retina to the intensity of the light reaching it, the eye is capable of service with enormous variations in the brightness of illumination. But there are limits of brightness, beyond which we cannot safely go in either direction. Excessive stimulation unduly exhausts the retina. Deficiency of light lowers the acuteness of vision, and makes more difficult the recognition of objects of a given size and distinctness.

For indoor seeing, the practical problem is largely to get enough light on what we look at. The eye evolved largely for outdoor seeing, and the comparative deficiency of light indoors is enormous. Photography has emphasized this difference. The same film, exposed through the same stop, will require a hundred times longer exposure with a good indoor light than it will require with the light generally available outdoors in the daytime.

The first question to be answered is, How to get enough daylight into the schoolroom? The second is, How to get it to fall in the right direction? The arrangement to be worked out is one that shall secure the sufficient illumination of the aspects of things that we look at.

* Submitted at the meeting of the Joint Committee on Health Problems in the School, of the American Medical Association and the National Education Association, Atlantic City, March 1, 1921.

It has been customary to say that the room must have enough window space; but window space has little significance, until we know what is to be seen through it, and its position in relation to the student. No amount of window space will give a good light from green foliage; or from a wall, unless the wall is of light color and the sun is shining directly on it.

The test of sufficiency of illumination that can be applied to the plans for any schoolroom is, How much open sky, measured in angular space, can be seen from the darkest point in the room at which objects will be placed to look at? In general this must not be less than the equivalent of a square, each side of which subtends an angle of 20 degrees, for a north light in a cloudy climate. This may be reduced about 50 per cent. in a room with south light if heavy clouds rarely diminish the daylight.

LIGHT FROM ABOVE

Objects looked at are held in front of us, so that light should come from behind rather than from in front. But it has generally been overlooked that the eye is particularly suited to looking down on its work, and to using illumination from above. This is the point in which modern arrangements for artificial lighting have outstripped our plans of admitting daylight to a room.

If one stands or sits with the head erect and the eyes looking forward on a level, the field of vision extends upward about 45 to 50 degrees and downward about 65 to 80 degrees from the horizontal plane passing through the eyes. If without changing the position of the head the eyes are turned up and down, they can turn up about 40 degrees and down fully 60 degrees. If, now, the head is thrown forward and then backward, it will be found easier to look directly downward than to look 40 degrees above the horizon.

Our eyes are fitted for use looking downward, and all continuous use of them for fine work is done with the work placed below them. The easy position for reading is with the work placed as much below the eyes as in front of them. Very often the position assumed is one looking almost directly down upon the work. Our work is done on desks and tables, with an upper surface horizontal so that it is best lighted from directly above; or inclined, as in the case of some school desks, to an angle of not often more than 10 degrees with the horizon.

We are so constructed that it is more important for the light to come from above than from behind us. That is where it comes from the open sky: as much from in front as behind, and from both sides; but always from above. We know how unpleasant it is when light is reflected from snow or water, and comes nearly as much from below as from above. The great problem in school lighting is to get the light to fall from above. This has been solved for artificial lighting; it remains to be solved for daylight.

The first point is to have the windows go as high as possible. It is often stated that a skylight is the ideal window for illumination, but it is not practical. It can be used only in the highest story, or in one story buildings; it is hot in summer and makes the room hard to heat in winter. These objections to it having been stated, the matter is usually dismissed; and no attempt made to secure the best light possible through windows, the resource that is admittedly practical.

The window should go all the way to the ceiling. The most important reason for having high ceilings is to get high window space. Yet it is common to sacrifice this by placing a foot or so of dead, useless wall, about the top of the window. This foot if utilized to admit light would be worth more than 3 or 4 feet at the bottom of the average window.

There are some mechanical difficulties about having the window begin just at the ceiling, but these are readily overcome. It is possible for the glass of the window to come within 3 inches of the level of the ceiling, instead of from 15 to 18 inches below it, as has generally been the case.

USE OF SHADES

The most popular method, however, of keeping the schoolrooms poorly lighted is the use of an opaque shade, placed at the top of a window. Any shade hung at the top of a window should be white, and of thin, translucent material, which will admit and diffuse all the light possible when the sun is shining directly on it; and it should be rolled up completely when the sun is not shining on it. A dark shade may be placed at the bottom of a window, when somebody has to face it, if the window is so low as to come down near the level of the eyes. Windows in the schoolroom should be made to admit light; this is their primary function, best performed if the bottom of the window is above the level of the eyes. This primary function should not be sacrificed in making the window so that it can be used to look out of. It would be better to make distinct openings for the two purposes. If the window comes just below the level of the eyes, a dark shade can be placed a few inches above the bottom of the window permitting an outlook below it, but pulled up so as to shut off any direct view of the sky from eyes in the usual position for study.

LIGHTING THE CEILING

The weakest point in the utilizing of daylight for the schoolroom is in the failure to light the ceiling, whence the light could be diffused in the normal direction downward upon the scholar's work. This can be done only by reflection. Occasionally reflectors placed outside the building have been used to illuminate rooms by reflecting the light of the sky obtained through a light well in the midst of closely crowded buildings.

Schoolrooms should never have such meager access to daylight. But a highly polished inside shutter placed horizontally can be used to reflect light on the ceiling, and at the same time prevent it from falling on the floor, where it tends to dazzle the eyes directed downward in performing school tasks. Such a shutter should be fastened in place with a hinge that will allow it to be inclined at different angles to meet the differences in the inclinations of the sun's rays at different times in the year. It should extend beyond the sides of the window so as to catch light that would reach the floor when the sun falls obliquely from the right or left of the window. When the light is admitted through a series of windows placed close together, the shutter should be continuous across the whole series. It should generally be about as wide as the distance it is placed below the top of the window, 2 or 3 feet. More than one shutter can be used, placed at different heights before the window, in which case the width should equal the interval between them. Such horizontal shutters will be useful chiefly on windows that receive the direct light from the sun during school hours. But in some cases such a shutter that has a good reflecting surface will materially improve the lighting of the dark parts of the room by reflecting on the ceiling the light of an unobscured north sky.

For buildings so placed that it is impossible to get sufficient clear sky space to furnish light through a lateral window, a reflecting shutter, placed outside the window so as to reflect light from the sky above upon the ceiling, may be the only practical method of illumination. Such a reflector may be made of milk glass, or frosted or fluted glass. It should be hinged like an inside horizontal shutter, to adjust to different angles; especially if the exposure is one where the direction of strong light will vary at different hours of the day.

LIGHT FROM ANY QUARTER

Much has been written with regard to having a north light, of having the light come from one side of the room, and of having it fall over the pupil's left shoulder. Sometimes the south exposure of a school building has been left a blank wall, the opportunity being wasted for flooding a room or series of rooms with the light that was badly needed in them. Cohn declared his preference for a southern exposure. Risley has done the same and has given reasons for his preference.

When the windows are placed high enough and furnished with the proper arrangement of shades or horizontal shutters, the light may be admitted from north, east, south or west, or from all quarters; and is better admitted on two or more sides of the room. Under inferior arrangements that are still common, it has often been necessary to save the pupils from facing the light by compelling the teacher to face it a large part of the time. In order that right handed children should have the light coming over the left shoulder, the direction favorable for their writing, the left-handed children had the shadow of the hand thrown over the pen point, the most unfavorable position for them; and the blackboard and wall charts often had to be placed in unfavorable position, or inconveniently crowded on the only side of the room available for them.

When the windows are placed high enough, they do not shine unpleasantly in the eyes of the pupils or teacher facing that side of the room. The natural arrangement of brow and lashes and the inclination of the head effectively protect the eyes from unpleasant glare. When the light comes in on two or three sides of the room, blackboards and charts may be placed below the windows on sides opposite other windows, and will receive an excellent illumination, while throwing all reflections from their polished surfaces down toward the floor, instead of in the eyes looking at them. One further factor in the lighting of the room is the color and tint of its walls. The predominance of lighting from above is materially increased by having everything above the level of the eyes in as light a tint as possible, either white or light yellowish or greenish. Below the level of the eyes, walls, floor and seats should be relatively dark, and the surfaces not so highly polished as to give regular reflections that will be annoying.

INSTANCES OF PROPER ARRANGEMENT

When the room can be lighted from only one side, it will always be best to have the length of the room parallel to the wall with the windows in it, and its breadth limited according to the height of the ceiling. Thus, with a 12 foot ceiling, the room should not be more than 18 feet wide. The windows should begin at 6½ or 7 feet from the floor and extend to as near the ceiling as possible, and should take up as nearly the whole length of the one side of the room as is compatible with the strength of the building.

It is assumed that through such windows nothing will be visible except clear sky from every part of the room where anything is placed that has to be looked at. If these windows open to the south, or to the east or west, where the sun is likely to shine in during school hours, they must be furnished with light shades that can be used to intercept and diffuse the direct sunlight, and drawn up entirely out of the way when the sun is not shining on that window. The matter of dark shades, to be drawn up from the bottom, is less important if the bottom of the window is as high from the floor as mentioned; it will cause little annoynance, even when entirely unshaded. A room with 15 foot ceiling may be from 20 to 25 feet wide, and the bottom of the windows placed 7 or 8 feet from the floor.

If there are windows on both sides of the room, all having the proper outlook, it may be wider, 30 feet for the 12 foot ceiling or 40 feet for the 15 foot ceiling. Light from one or both ends of the room, through windows of the proper height, cuts out some shadows and gives a more uniformly diffuse illumination, more nearly approaching the ideal of diffuse light from the sky.

Excellent illumination can be secured by extremely simple means, if only the importance of having the light come from above is properly appreciated. In Pueblo, Colo., are two

small, one-room school buildings, built on a plan devised by Dr. R. W. Corwin of that city, in which the rooms are as well lighted as any schoolroom we have ever seen. Teacher or pupil may stand in any part of the room and look in any direction without encountering the slightest unpleasant glare, and with adequate light on everything to be looked at. Except the door space, and the small windows placed low, to look out from, every foot of wall space below the main windows is available for blackboards and charts, which are better lighted than is possible for most schoolrooms. The rooms are 29 by 39 feet with 13 foot ceiling. Close to the ceiling, 4 feet of wall space on three sides is utilized for windows, each of which is hung like a transom, so that it can be opened for ventilation. On the two sides where the direct sunlight can fall on the windows a part of the day, the glass is "frosted;" on the north side it is left clear. The frosted glass cuts down the illumination somewhat on cloudy days, and to this extent it is inferior to light shades that could be drawn out of the way when the sun is not shining.

ESSENTIALS FOR ILLUMINATION

The essentials for good daylight illumination of schoolrooms are few and simple:

1. The selection of a site and plans such that neighboring trees or buildings shall in no case rise more than 15 degrees above the horizontal plane of the bottom of the windows. Large trees, so close to the walls that they can be trimmed up to clear an angle of 60 degrees with the horizon, may be permitted in warm climates where it is important to keep down heat.

2. Placing the windows high enough to permit light from them to fall at an angle of from 15 to 40 degrees in the part of the room most distant from them, shutting off all glare of light below 15 degrees, and placing such windows on all available sides of the room, and especially to the south, where the most light is obtainable.

3. Controlling direct sunlight by light shades that will intercept and diffuse it, drawn out of the way when not needed for this purpose. Placing all dark shades at the bottom of the window, and drawing them up only as needed to raise the level below which glare is excluded from the eyes. Using polished shutters that swing on a horizontal axis to reflect light on the ceiling when obstructions to clear sky render this help necessary.

Book Notices

THE AMERICAN YEAR BOOK OF ANESTHESIA AND ANALGESIA. F. H. MCMECHAN, A.M., M.D., Editor. 1917-1918. Cloth. Price, $10. Pp. 483, with illustrations. New York: Surgery Publishing Company, 1921.

Delayed in publication by the World War, this, the second edition of the American Year-Book of Anesthesia and Analgesia, contains those methods of anesthesia and analgesia introduced to expedite military surgery, which are to find a place for themselves in civilian practice for the benefit of all concerned. The several chapters devoted to anesthesia at the front, as well as in the war surgery of the base and reconstruction hospitals, present a remarkable collection of data that will be found invaluable for future military use; and those who have contributed their experiences and methods are among the most noted in this special field. Of a special interest are the various methods of anesthesia for emergencies which admit of transplantation to industrial surgery. Fundamental studies in the pharmacophysiopathology of anesthesia and analgesia, of exceptional merit, have been included; and as many of them have a direct bearing on the clinical handling of patients submitting to operations under narcosis, they are doubly significant and valuable. Thus, anesthesia and acidosis, blood changes, circulatory disturbances and temperature in relation to anesthesia are dealt with at length by clinicians and research workers of note, while the pharmacologic studies of the old and newer anesthetics develop much of importance. Such complicating factors of anesthesia as epilepsy and status epilepticus, as well as tuberculosis of the spine, drug addiction and heart lesions, are discussed in detail; and the relation of oral hygiene, the prophylactic value of pituitary extract and the utility of Trendelenburg anesthesia are all emphasized in comprehensive papers. Considerable space is devoted to the possibilities of operations in the sitting posture under various anesthetics. The clinical and experimental data about analgesia by means of general anesthetics have also been collected, and a broad field of utility indicated. The Year-Book is one of the few publications that enable the anesthetist, progressive surgeon and dentist to review the field of local anesthesia. Aside from contributions on the newer local anesthetics, their pharmacology, comparative toxicity and value, series of valuable technical papers on local anesthesia in general surgery, the specialties and in dentistry and oral surgery are presented. Regional, sacral and spinal anesthesia receive deserved attention. In view of the fact that anesthesia is coming to assume an intimate rôle in decreasing mortality and morbidity in obstetrics, the pertinent papers on anesthesia in obstetrics are of decidedly practical benefit. An added feature of this edition is the cumulative index of the pertinent literature for 1917-1918. This is a great convenience for any one making a study of any particular phase of anesthesia or analgesia, as the index is developed under subject headings, and all the needed and necessary bibliography for reference or teaching is included.

THE PSYCHOLOGY OF FUNCTIONAL NEUROSES. By H. L. Hollingworth, Associate Professor of Psychology in Columbia University. Cloth. Price, $2 net. Pp. 259. New York: D. Appleton and Company, 1920.

The importance of psychogenic factors in the production of faulty adaptation to the experiences and exigencies of modern social life has been recognized. The development of "mental medicine," "psychanalysis" and "psychotherapy" has been progressive. Conflict has been emphasized as an important factor in the production of mental disorder, from the day of demonology to the present day of Freudian psychology. Excluding conditions of mental deficiency depending on failures of development, or due to injury or destruction in the nervous elements or other organic disturbances, there remain symptom pictures for which no structural basis has been discovered: hysteria; neurasthenia, constitutional psychopathy, psychasthenia, anxiety neuroses, compulsion neuroses and, perhaps, paranoia and dementia praecox. Considering the results of the work of the Kraepelin-Janet-Binet and the Freud-Jung-Adler groups psychologically inadequate, the author offers an exposition of the "concept of redintegration," and data confirming this concept—the results of psychologic examination of more than a thousand psychoneurotic patients in U. S. Army General Hospital No. 30 at Plattsburg Barracks, New York. Some of the descriptive concepts of the type of reaction presented by the psychoneuroses, such as transfer of libido, symbolism, regression, conditioned reaction, pithiatism, conversion, general suggestibility, dissociation and fixation, are considered by the author as unintelligible, others as so general that they fail to convey the essential aspect of the individual picture, while others involve conceptions which do not fit in with the accepted systematic accounts of mental processes. The author believes that his concept of redintegration is descriptive of the psychoneurotic picture, identifies the patient, explains the psychogenesis of his symptoms and shows the way to treatment, being at the same time intrinsically intelligible, while a neural counterpart can be conceived without difficulty.

"Redintegration is that type of process in which a part of a complex stimulus provokes the complete reaction that was previously made to the complex stimulus as a whole." The psychoneurotic's disposition is to give a total reaction of previous experience in response to the fragmentary details of the present.

Of practical value is the study of the intellectual status of the psychoneurotic made by Dr. Hollingworth. The general results from the examination of recruits show the average soldier to have a mental age of not over 14. The range, among functional conditions, is from 8.6 years, in the case of

mental deficiency, to 14.0 in the case of psychasthenia. The average mental age of the whole 1,172 patients is 11.7 years, nearly two and a half years below that of the average soldier. It appears that only the low grade and the very high grade intelligence yield to functional war neuroses.

The psychologic service is of inestimable value to the psychiatrist in the study of psychoneuroses for the assistance it offers in diagnosis and classification of patients, in the selection of patients for physiotherapy, and in the direction of occupational therapy, vocational adjustment, educational diagnosis, personal efficiency instruction and morale, and industrial reeducation.

NUEVAS ORIENTACIONES SOBRE LA PATOGENIA Y TRATAMIENTO DE LA DIABETES INSÍPIDA. Por el Dr. Gregorio Marañón. Paper. Pp. 173, with illustrations. Madrid: Libreria Gutenberg de Ruiz Hermano, 1920.

Dr. Marañón, one of the professors in the Central University of Spain, is well known for his research work on endocrinology. In this book he discusses the pathogenesis, etiology, symptomatology, diagnosis, course, prognosis and treatment of diabetes insipidus. He considers the disease as due to a secretory deficiency of the middle and posterior lobes of the pituitary gland, in other words, hypopituitarism. Among contributory factors he mentions infections, poisonings, tumors, traumas and emotional crises. He believes and tries to prove that diabetes insipidus is much more frequent than is generally supposed. In treatment he favors large doses of pituitary extract besides specific treatment whenever indicated. The book is written in a lucid style and has a quite complete bibliography. Scientific workers will note with interest the author's remark in the introduction that a misleading statement by Schäffer on the etiology of this disease proved finally the clue that led to the discovery of its true causation.

THE WASSERMANN TEST. By Charles F. Craig, M.D., M.A., F.A.C.S., Lieutenant Colonel, Medical Corps, United States Army. Second edition. Cloth. Price, $4.25. Pp. 279, with illustrations. St. Louis: C. V. Mosby Company, 1921.

In this edition is incorporated the material from the literature which the author considers of permanent value. Several important changes are noted in the technic of this test, the most important being the addition of blood grouping and the directions concerning the preparation of blood cell suspension used in the test. He considers that the importance of selecting donors for the blood cell suspension from individuals belonging to Group Four of the Moss classification can hardly be overestimated. In his preface he regrets the necessity of retaining the name "Wassermann test"; he believes that it has become so fixed in the literature, however, that it would be unwise to change it. He prefers "complement fixation test," although it is possible that this term may be erroneous as an explanation of the mechanism of the reaction. The book is an authoritative guide for those concerned in the performing of this most important laboratory test.

REFRACTION AND MOTILITY OF THE EYE WITH CHAPTERS ON COLOR BLINDNESS AND THE FIELD OF VISION. Designed for Students and Practitioners. By Ellice M. Alger, M.D., F.A.C.S., Professor of Ophthalmology at the New York Post-Graduate Medical School. Second edition. Cloth. Price, $2.50 net. Pp. 394, with 125 illustrations. Philadelphia: F. A. Davis Company, 1920.

This is a second and revised edition of a popular manual, published in 1910 and reprinted several times since, without change. It covers the subject of the functional examination of the eye concisely, and in the main well. There are excellent chapters on optics, the emmetropic eye, the theory and use of the ophthalmoscope, retinoscopy, the various forms of ametropia and heterophoria. Color blindness, the visual field and malingering are also covered. It would seem that the arrangement is unfortunate, as methods of refraction and the description of the various cycloplegics and their uses are entered into before the various refractive errors are described. It is difficult to understand the advice to beginners "to learn to get along without a cycloplegic as much as possible." Surely no examination is complete without the use of a mydriatic. Even in simple chronic glaucoma, with small pupil, it is perfectly safe to use cocain, which can be followed with physostigmin when the examination is completed, and in our opinion it is always best to use a cycloplegic in all other cases, if there is any accommodation remaining. It would seem wiser to advise the beginner to commence his study of refraction with intelligent patients, who can be examined again and again under atropin. One hesitates to criticize methods which must be more or less individual, but a careful reading of this book fails to convince one that the student of ophthalmology, using it as a guide, would be likely to get sufficiently definite ideas of practical methods of work. For example, one looks in vain for sufficiently definite indications for the use of atropin and homatropin, and certainly sufficient emphasis is not placed on the importance of the postcycloplegic examination, from two days to a week following the examination under homatropin, which is unquestionably the key to success which many have failed to find. Furthermore, nothing is said of the desirability of using physostigmin after the examination under mydriatics or cycloplegics, except when the prolonged effect of atropin is desired.

INDEX OF THE PERIODICAL DENTAL LITERATURE. PUBLISHED IN THE ENGLISH LANGUAGE, INCLUDING SIXTY-FIVE PUBLICATIONS IN ENGLAND, SCOTLAND, CANADA, AUSTRALIA, NEW ZEALAND AND THE UNITED STATES, FOR THE FIVE YEARS, 1911-1915. A Classified Subject Index on the Plan of the Dewey Decimal Classification; an Alphabetical Author Index; a List of Dental Books Published During the Same Period. Compiled by Arthur D. Black, A.M., M.D., D.D.S., Dean, Northwestern University Dental School. Published by the Dental Index Bureau under the Auspices of the American Institute of Dental Teachers. Cloth. Price, $6.50. Pp. 478. Buffalo: Dental Index Bureau, 381 Linwood Ave., 1921.

This is an index of the dental literature published in the English language during the years 1911-1915. It consists of two parts—a classified subject index and an index of authors. The subject list is based on the Dewey decimal classification, which has been much elaborated by Dr. Black. Its use is much facilitated by an excellent alphabetical index. We note that the out-of-date custom of indicating volume numbers by Roman numerals has been followed. The index is about the same in size and appearance as the final annual bound volume of Quarterly Cumulative Index to Current Medical Literature, published by the American Medical Association. It represents a vast amount of labor, and should be of great value to research workers in the dental profession.

KURSUS DER PSYCHOTHERAPIE UND DES HYPNOTISMUS. Von San.-Rat Dr. Georg Flatau. Second edition. Paper. Price, 16 marks. Pp. 175. Berlin: S. Karger, 1920.

This monograph is the outcome of a course of lectures on hypnotism and psychotherapy which the author for a number of years has given to physicians. The first six chapters are made up of introductory matter: the history of psychotherapy and hypnotism; some general psychologic considerations (relation of mind to body, consciousness, perception, conception, emotions, attention, will, etc.); the sort of disorders that are amenable to psychotherapy; the different forms of psychotherapy (in the waking state and in hypnosis); the nature of and various kinds of suggestion; something about sleep, and the reasonable principles on which a person should act when he tries to put another to sleep. In the next chapter are given definite instructions how to hypnotize, with remarks on the proportion of people who may be hypnotized. Succeeding chapters cover the phenomena of the hypnotic state, the degrees of hypnosis and posthypnotic suggestion. Next the author attempts to explain hypnotism and its phenomena; he says that he uses it in all sorts of phobias, nocturnal and diurnal enuresis, onychophagia and similar habits, spasmodic troubles (epilepsy excluded), tics, occupation cramps, morphinism, alcoholism, nervous asthma, disorders of sleep, sexual disturbances [sic] and many forms of stuttering. In the following chapters, illustrative cases are given and the author's methods further explained. Finally there is a brief exposition of psychanalysis, mostly taken from the literature. The author says he has cured patients by hypnotism when psychanalysis had failed. The work should not be called a course on psychotherapy, but it well presents hypnotism and its medical uses. A physician not familiar with the subject who wants to try hypnotism will find this little book instructive and useful. We commend the author for insisting that hypnotism should not be used by laymen, and that the physician using it should be a good diagnostician and medical practitioner.

Miscellany

TRANSYLVANIA LIBRARY

A. H. BARKLEY, M.D. (HON.), C.M.
LEXINGTON, KY.

An item on Transylvania Library appeared in THE JOURNAL, Feb. 19, 1921. It is doubtful whether any like collection of books so valuable has been kept in the background so long as those now occupying the shelves in Transylvania.

The nucleus of this wonderful collection was started by John Todd of Virginia, who gave to Transylvania Seminary, then located at Crow's Station, now Lincoln County, Kentucky, his library, which consisted of many valuable and rare books. Todd's books were brought from Virginia over the Allegheny Mountains to Kentucky, by what was then known as the "Wilderness Road"; this of itself, when one reflects on the inaccessibility of the destination and the poor facilities for travel, was no small feat to accomplish under such conditions.

These books were brought to Crow's Station, Ky., in 1784, and placed in the double log cabin then occupied by Transylvania Seminary. They remained here until their removal to Lexington, Ky., in 1792.

There was formed in Lexington prior to 1792, a company that styled itself the Transylvania Land Company. This company was made up largely of Lexington citizens of a philanthropic turn of mind, who offered Transylvania Seminary a plot of ground in Lexington, now known as "Gratz Park," if the Seminary would move from Crow's Station to Lexington. This offer was accepted and, in the fall of 1792, the seminary with its collection of books moved to Lexington and occupied a brick building located on the ground donated by the land company.

The time at which the formation of this wonderful storehouse of knowledge was begun can well be recalled, and in presenting these facts it is interesting to note that Kentucky was then a section of Virginia. The ground that the land company gave had been but a short time before occupied by hardy pioneers, and was known as the "Tomahawk Claim," beyond which lay endless leagues of shadowy forest.

The vast domain west of the Mississippi had not been explored. The city of St. Louis was but an output for traders. The name Chicago had not been coined. Fort Dearborn, occupied by two companies of United States troops, marked a roll in the prairie among the sloughs where stands today the Queen and Mistress of the Lakes. Cincinnati had not yet taken her place on the map, being known as Fort Washington, General Pakenham had not attempted the capture of New Orleans, and General Jackson, who was to drive him with his troopers back to his ships, was unknown to fame.

Wars with the Indians were of frequent occurrence. The prow of a steamboat had never cut the waters of a western stream, and the whistle of a locomotive was unheard in this section.

There were only two avenues by which Kentucky could be reached from the east. One was the Ohio River, the other the Wilderness Road. The former was covered by keel-boats, flat-boats, and canoes; the latter was traversed on horseback or on foot; no wheel had broken it or been broken by it.

It was in such a country and with such environments that this great library began to grow and diffuse knowledge throughout the sparsely settled country.

The history of the library is closely linked with that of Transylvania Medical School. As is well known, Transylvania Medical College, the first of its kind west of the Alleghenies, was located in Lexington, Ky. Its faculty was composed of such men as Drs. Samuel Brown, Frederick Ridgley, William H. Richardson, Daniel Drake, Charles Caldwell, and others of like mental caliber and literary attainments.

At the first meeting of the trustees of Transylvania Medical School early in 1799, Dr. Samuel Brown was authorized to go to Europe and purchase books for the library. Five hundred dollars, no small sum in those days, was given Dr. Brown for this purpose.

Dr. Brown, after much hard travel and many inconveniences reached Europe, and bought such books as in his judgment the college needed to add to its already growing library. These were carefully packed and shipped to this country where, after much delay, they finally reached Lexington, Ky.

As the western country began to develop and the influence of the college and the library began to be felt much beyond its present confines, the need for more books became urgent. In 1820, therefore, Dr. Charles Caldwell was commissioned to proceed to Europe and buy such books as were needed.

Before Dr. Caldwell went to Europe, he induced the legislature of Kentucky to give $5,000 for the express purpose of purchasing books for Transylvania Library, which, as declared in the act, was to remain the property of the state of Kentucky. Simultaneously, the city of Lexington advanced $6,000 for the same purpose, but specified that with this loan the city was to retain a lien on the books. The loan, however, subsequently became a donation. In addition, many physicians in the West and South and in Kentucky gave liberally, making in all about $13,000 which Dr. Caldwell was to spend for books.

Caldwell was a man of refined tastes and of excellent learning, and no one could have been better selected to purchase books than he. This was evidenced by the fact that while in Europe on this mission he procured some of the most valuable books to be had at that time.

The demand for knowledge was so great, and the books then on hand were in such constant use by both physicians and students that it was decided in 1839 to send Dr. J. M. Bush and Robert Peter to Europe to purchase more books. This time they were authorized to spend $11,000, which they did with great discretion, obtaining some of the rarest and most valuable books to be found at that time in London and Paris.

Transylvania continued to spend money for books for the medical library until it had acquired a collection of more than 8,000 volumes, which covered the entire field of medicine and surgery as it was taught at that time.

There are to be found in this library, besides the books mentioned above, the theses of all graduates in medicine from 1818 to 1859, which number 1,700; also 1,000 pamphlets on medical topics by men who were recognized as authority on the respective subjects. There are to be found two dozen lithographs on canvas of prominent physicians and surgeons of the period of 1825 to 1835. These are mostly of those members of the profession who were prominent in the French Academy. The books are in good condition, the paper of good quality, the type clear, and the bindings and plates bear the mark of expert workmanship. Mrs. Norton, the librarian, has gone through the collection, classifying and arranging the books so that there is quick and easy reference to any subject. Visitors are always welcome.

It might be stated that while the trustees of Transylvania were collecting the medical library they were not unmindful of those books on law and literature in general, as there are 10,000 volumes on general subjects and 2,000 law books, comprising in all 20,000 volumes of most valuable books. The library does not shine in books of recent publication; but in rare old books on medicine and the allied sciences, law and general subjects, this collection of books eclipses anything of its kind west of the Alleghenies, and it has few equals in this country and abroad.

These rare old books, when compared with many of the modern ones, recall a few lines from Hazlitt's Essay on "Old Books," in which he says that "dust and smoke and noise of modern literature have nothing in common with the pure, silent air of immortality." And he further adds that "many of the new books are also like modern made dishes in this respect, that they are generally little else than hashes and refaccimentos of what has been served up entire and in a more natural state at other times."

A SELECTION OF TITLES

The following are a few of the books contained in this library, and may serve as an example of what the library comprises:

1. Aeginetae, Pauli, opus de Re Medica nunc primum inte rum, Latinitate donatum per Joannem Guinterium Audernacum, doctorem medicum. Coloniae opera et impensa Joannis Soteris. Folio, 1534.
2. Ambiani, Jacobi Sylvii, Medici et Professoris Regii Parisiensis, Opera Medica, iam demum in sex partes digesta. Aduncta est eivsdem vita et icon. Opera et stvdio Renati Morael Doctoris Medici Parisiensis. Apud Iacobum Chouer. Folio. Genevae, 1635.
3. Alexandri Tralliani, praecellentis medici De Singularum Corporis Partium ab hobinis coronide ad imum usque calcaneum, uitiijs . . . Per Albanum Torinum vito durensem recens Latinitate donati. Excudebat Henricus Petrus. Folio. Basilea, 1533.
4. Avicennae Arabum Medicorum Principis. Ex Gerardi Cremonensis versione & Andrae Alpagi Belunensis castigatione. A Ioanne Costeo & Ioanne Paulo. Mongio Annotationibus . . . quibus principum Philisiphorum, ac Medicorum consensus dissensusque indicantur. Vita ispsius Auicennae ex Sorsano Arabe cius discipulo, a Nicolao Massa Latine scripta. Per Fabium Paulinum Vitinensen. Tomi duo. Apud Iuntas. Crown folio with vellum binding. Venetiis, 1608.
5. Clericus, Daniel, & J. Jacob. Mangetus. MM DD Bibliotheca Anatomica sive Recens in Anatomia Inventorum Thesaurus locupletissimus in quo integra atque absolutissima totius Corporis Humani Descripto . . . exhibetur, illustrata et aucta. In duos tomos divisa. Filio. Sumptibus Johan. Anthon. Chouet & Davidis Ritter. Genevae, 1699.
6. Cowper, William. The Anatomy of Humane Bodies, With figures drawn after the life by some of the best masters in Europe, and curiously engraven in one hundred and fourteen copper plates, illustrated with large explications containing many new Anatomical Discoveries . . . Oxford, printed at the Theater, for Sam Smith and Benj. Walford, printers to the Royal Society, at the Prince's Arms in St. Paul's Church Yard. Royal Folio. London, 1698.
7. Dioscoridae, P. Pharmacorum, Simplicium, reique Medicae Libri VIII Io, Rvellio interprete In inclyta Argentorato apud Io. Scottum. Folio. Argentorati, 1529.
8. Fabricii, Hieronymi, ab Aquapendente, Equite Sancti Marci, et Anatomico Supraordinario in Florentissimo Gimnasio Patavino, Opera Anatomica, Cum . . . figuris aeneis. Sumptibus Antoni Meglietti. Crown folio, vellum binding. Patavii, 1625.
9. Fallipii Mvtinensis, Gabrielis, Physici ac Chirurgi praeclarissimi, in felicissimo Gymnasio Patavino . . . Opera Omnia, in vnvm congesta . . . Apud haeredes Andreae Wecheli, Claud. Marnium & Io. Aubrium. Folio. Francofurti, 1600.
10. Fracastorii Veronensis, Hieronymi, De Sympathia et Antipathia Rerum, Liber VNVS, de Contagione et Contagiosis Morbis et Curatione, Libri III. Apud heredes Lucaeantonii Iuntae Florentini. Venetiis, 1546.
11. Galeni Opera ex septima ivntarvm editione, quae quid superioribus praestet, pagina versa ostendit, ad amplissimvm Venetorvm Medicorvm Collegivm. Tomi septem. Folio Apud Iuntas. Venetiis, 1597.
12. Harveo, Guilielmo, Angio, in Collegio Medicorum Londinensium Anatomes & Chirurgiae Professore, Exercitationes de Generatione, Apud Ioannem Ravesteynium. 36 mo. Limp vellum binding. Amstelaedami, 1651.
13. Hildani, Gvilhelmi Frabricii, DN, Illustrissimi Marchionis Badensis & Hochbergensis, &c.—Medico-Chirurgi Ordinardi, Opera quae extant Omnia, Observationum Centuria Prima, secunda . . . sexta. De Conservanda Valetudine . . . Sumptibus Johannis Beyeri. Folio with numerous plates. Francofurti, 1646.
14. Hippocratis Coi, et Claudii Galeni Pergameni Archiatron Opera. Renatus Charterius, Vindocinensis, Doctor Medicus Paris. Regis Christianissimi Consilarius Medicus . . . In tredecim Tomos degessit. Apud Andraeam Pralard Bibliopolam, via Jacobaea, ad insigne Occasionis. Crown folio. Parallel columns of Greek and Latin. Lutetiae Parisiorum, 1679.
15. Malpighii, Marcelli, Philosophi & Medici Bononiensis e Regia Societate, Opera Omnia, Figuris elegantissimis in aesincisis illustrata, Tomis duobis comprehensa. Plantarum Anatomes Partem Secundum. Carolo Fracassato, Pisis Medicinae Professori Ordinario. Folio. 76 full-page illustrations. Apud Robertum Scott & Georgium Wells. Londini, 1686.
16. Medicae Artis Principes. Aretaei Cappadocis. Junio Paulo Crasso Patavino, interprete; Ruffi Ephesti, a Junio Paulo Crasso; Alexandri Tralliani, Joanne Guinterio Anderaco interprete; Pauli Aeginetae, Jano Cornario, interprete; Oribasii Sardiani, Joanne Baptista Rasario, interprete; Actii Medici Graeci, per Janum Cornarium; Philaretti et Theophili, Albano Torino, Vitodurensi; Actvarii Zachariae Filii, Julio Alexandrino Tridentino; Nicolai Myrepsi Alexandrini, a Leonharto, Fushio, . . . Tubingensis; Aurelii Cornelii Celsi; Seribonii Largi, Caio Julio Calliste; Marcelli, Ioanni Reineke et Guilielmo Rinco. Thick folio with binding of gold-stamped vellum. Title page is missing.
17. Paracelsi, Aur, Philip, Theoph, Bombastaab Hohenheim.—Opera Omnia Medico-Chemico-Chirurgica, tirbus columinibus comprehensa. Editio novissima et emendatissima. Sumptibus Ioan. Antonii & Samuelis de Tournes. Folio. Genevae, 1658.
18. Paré, Ambroise, Conseiller et Premier Chirurgien du Roy. Les Oeuvres, Corrigees et Augmentees. Sixiesme Edition. Chez Nicolas Buon au mont S. Hilaire, a l'Image St. Claude. Crown folio. A. Paris, 1607.
19. Perdvlcis, Bartholomaei, Doctoris Medici Parisiensis, Universa Medicina, Editio Tertia; Studio & opera G. Savvageon Doct. Med. Collegio Medica Lugdun. Cui etiam accessit De Morbia Animi Liber. Apud Ioannem Bessin, prope portam Collegii Remensis. Parisiis, 1640.
20. Schenckii a Grafenberg, Ioannis, Observationum Medicarum, Rararum, Novarum, Admirabilium & Monstrosatum. Volumen tomis septem de toto homine institutum . . . E. Typographeo Nicolai Hoffmanni, impensa Iouae Rhodii, Folio with a portrait and allegorical title page. Francofurti, 1609.

AVAILABILITY OF THE VOLUMES

Great valuation is placed on this collection of books, and no one doing literary work, whether in law, medicine or the very early classics, should fail to visit this library before completing his data. Many persons of note have availed themselmes of the riches in these old books.

Dr. Albert H. Buck, who for many years was connected with the Medical Department of Columbia University, New York, writes:

> Any city which boasts of such a treasure as Lexington has gets much glory and is responsible to the world for its safe-keeping. There are scores of books in Transylvania Library not to be found in the libraries of the Academy of Medicine, New York, or of the Surgeon-General of the United States. The largest and most complete in the country is at Transylvania, and it was possible for the writer to complete his book "The Dawn of Modern Medicine" in this library without having to go outside it for material.

Miss Agnes Pickering of the University of Chicago, who has been making a study of ancient and rare books in this country and in Europe, after spending several weeks in research study in Transylvania Library, says:

> The literary treasures of this library are of a richness utterly bewildering. The great libraries of the East have absolutely no such collection of rare scientific books as I have found here. There is the further difference that the greatest of the Eastern libraries have picked up many of their rare books one by one, while I have found in Transylvania whole sets of such works as I had not dreamed of finding outside an Italian monastery. These books are without question the most precious heritage that Transylvania has, and form a greater treasure than is possessed by any other college or university in the United States.

138 North Upper Street.

REPORT OF OHIO COMMITTEE ON ANESTHESIA

A committee appointed by the Council of the Ohio State Medical Association to investigate matters connected with anesthesia sent out questionnaires to 500 surgeons and 400 hospital superintendents throughout the country, asking their views at to: (*a*) the choice of graduate physicians or graduate nurses in the giving of anesthetics; (*b*) the responsibility of the surgeon in the determination of what anesthetic agent should be used; (*c*) the choice of the anesthetic agent for ordinary purposes; (*d*) deaths which had occurred from anesthetics, and (*e*) fees or salaries paid for the giving of anesthetics, and asking for any suggestions which might be offered. Of those who replied to the questionnaire, 241 surgeons assume entire responsibility for the choice of anesthetics; twenty-one leave it to the anesthetist; forty-nine assume joint responsibility with the anesthetist. Three surgeons prefer chloroform; 238 prefer straight ether; two use ether with oxygen; twenty-two use nitrous oxid-oxygen; sixty-five use ether with nitrous oxid as a preliminary. One hundred and three prefer the nurse anesthetist; 181 prefer a medical man; forty-seven are indifferent, using either. One hundred thirty-five hospitals prefer ether; ten prefer nitrous oxid-oxygen; thirty-six prefer ether, with nitrous oxid as a preliminary. Eighty-three prefer the nurse anesthetist; seventy-eight prefer the physician anesthetist, and twenty-

cight use the two indifferently. The committee regards the administration of anesthetic agents as being almost entirely a routine procedure, and something which can be done by any intelligent physician or nurse, even by a layman who has had a reasonable amount of instruction in their administration. With the exception of a few highly trained men, the duties of the anesthetists are not such as to render the administrators in any scientific sense specialists. The work of the anesthetist being as a rule routine, the suggestion of many of the hospital superintendents and surgeons that the position should be placed on a salary, like that of hospital superintendent, pathologist, etc., meets the committee's approval in the case of hospitals which have enough work to justify the creation of this position. For smaller hospitals it is recommended that the work, so far as possible, should be done by experienced physicians or nurses, rather than by inexperienced physicians or assistants, including interns—unless the latter are under the immediate supervision of a skilled anesthetist instructor. A number of hospitals employ on salary a part-time anesthetist, who devotes the rest of his time to ordinary professional work. When the number of operations does not justify a whole-time or part-time salaried anesthetist, compensation must be as at present by suitable fees. Since anesthesia deaths, when at all preventable by the anesthetist, usually result from carelessness or inattention, the committee recommends that under no circumstances should the surgeon permit the attention of the anesthetist to be diverted from his work by watching the operation, by assisting in any way in its performance, or by conversation with visiting physicians, nurses or other persons. The committee fails to see as yet a reason for any change in the state law relating to the administration of anesthetics by graduate nurses who have been particularly instructed in their work. The amount and character of such instruction should be determined by rules adopted by the state board of registration.

Medicolegal

Duty as Between Patients—Liability of Mining Company

(Virginia Iron, Coal & Coke Co. et al. v. Odle's Administrator (Va.), 105 S. E. R. 107)

The Supreme Court of Appeals of Virginia reverses a judgment for $5,000 damages that the plaintiff administrators recovered against the defendant company and a physician employed by it to attend its miners, dismissing the case as to the company, and remanding it for a new trial as to the physician. It appeared that the miner in question, whose name was Odle, was taken sick Sunday, Oct. 13, 1918, and sent for the physician on Monday; but the latter sent medicine, and, to daily requests for attendance, said that he could not get off on account of the great amount of sickness in the camp, and had more to do than he could do, while Odle lived 5 miles or more away. Finally on the 20th, the physician went, examined the patient, and prescribed for him. The patient died on the 24th.

The jury was instructed that the plaintiff based his alleged right to damages on the failure of the physician to visit Odle, after repeated requests to do so, until the sixth day after the first request; and that if it believed that Odle was entitled to the services of the physician and his visits were requested and were reasonably necessary, and that it was reasonably possible for the physician to have visited him within the mentioned time, and that he had reasonable ground to believe that Odle was or might become seriously ill and liable to die unless he had speedy medical attendance, then his duty to Odle was paramount to his duty to all other patients except those who were equally entitled to his services and at that time also in equal danger if not attended. But, if it be conceded that the hypothesis was justified by the evidence, and was not misleading, this court holds that it cannot say as a matter of law, as the instruction did, that the duty of a physician to a patient critically ill is paramount to his duty to other patients who are also ill, unless the latter are in "equal danger." Physicians cannot always measure or compare the degree of danger of one patient with another, and this is especially true in cases of pneumonia. Of course, there are cases in which one patient is critically ill, requiring immediate attention, and others manifestly not, and here the duty of the physician is fairly plain; but this could not be said of the case at bar, in which Odle was ill of double pneumonia 5 miles from the camp, requiring half day to visit him and return, and there were five or six cases of pneumonia and several hundred of influenza in the camp requiring the attention of the same physician. The condition of the different patients would be a proper element, and a very important one, for the physician to consider; but at last the determination of the question of what the physician ought to do under such circumstances must in large measure be determined by his judgment, and what should be left to the jury is: Did he exercise that judgment in good faith? If there was any doubt as to whether or not he exercised good faith in the determination of his duty, it was a proper subject for inquiry and investigation on testimony of other physicians, after being informed of the situation and the surrounding circumstances, or on other evidence showing or tending to show a lack of good faith; but this court cannot say, as a matter of law, that "equality of danger" is a test to determine the duty of a physician in a case of this kind.

A similar vice, the court goes on to say, appeared in the next sentence of the same instruction, wherein it appeared that the physician was stripped of the right and duty to exercise his judgment as to what he ought to do under the circumstances. In that sentence the jury was told that if it believed that, during the week beginning October 13, there were only six or eight cases of pneumonia requiring the care of the physician, and these or other serious cases, equally entitled to his services, did not require his constant attention, then it was his duty to make every reasonable effort to visit Odle during that week; and if the jury believed that he could have done so without endangering the lives of the patients who were equally entitled to his services, without extra pay to him, then it was his duty to do so without regard to other patients who had to pay extra to secure his services and who were not in a very serious condition; and for any failure of his in this regard both he and the defendant company would be liable, if it directly contributed to Odle's death, without fault on his part, or on the part of those attending him. The physician had six or eight pneumonia patients at the camp and several hundred patients with influenza. One of the chief dangers of the latter was their tendency to develop pneumonia. It might be that the pneumonia patients "did not require his constant attention," and that he might have visited Odle "without endangering the lives of patients who were equally entitled to his services," and yet it still should have been left to his judgment as to whether or not he should have visited Odle, and the question which should have been left to the jury was his good faith in forming that judgment. It might be that, in looking back on the events of that time, a jury might conclude that he could, with safety to his other patients, have visited Odle; but the real question was: What was the opinion and judgment of the physician at that time, and was that opinion formed in good faith? If he visited other patients in the neighborhood of Odle during the latter's illness, to whom he owned no duty, for the sake of the extra pay he would get, that was a proper subject of consideration as tending to show his judgment at the time as to safety in leaving his patients at the camp; but the instruction was clearly misleading, if not erroneous, in the form in which it was given.

In the opinion of the court, the facts proved did not establish any liability on the coal company. The physician did not occupy the position of agent, in the usual sense of that term. Nor could he be called a servant of the company. The doctrine of respondeat superior, let the superior or master answer, had no application to the case. The position of the physician was rather that of an independent contractor. But that would not excuse the company from liability for his acts or neglects if the company was under a contractual obligation, not merely to employ a competent physician, but also to furnish the employee skilful medical treatment in case of

sickness. There was no express contract between the company and its employees. It made monthly deductions from their pay, and they understood the agreement on the part of the company to be that, in case of sickness, the miner was to receive the care and attention of the "company doctor" free of charge. If the business was not conducted for profit, but only for the betterment of the service, the advantages were mutual; and unless the employer contracted for a different service, it ought not to be held to any greater liability than ordinary care in the selection and retention of the physician.

This case appeared to be one of those in which the fund is administered by the master for the benefit of his servants, without profit or the expectation of profit to the master. An arrangement of this kind is for the mutual benefit of the master and the servant. In many of the small plants no resident physician could be obtained except by a deduction method, and, if the master is to be held liable in such case for negligence or malpractice of the physician when he derives no profit, the chances are that he will not employ a physician. This would be a serious detriment, not only to the employee, but to the public as well, which is interested in the general health of the community and especially in the prevention of the spread of contagious diseases. Of course, the rule would be different if the master were running a hospital or looking after the care of his employees as a business enterprise, with the expectation or hope of a direct pecuniary reward therefrom.

Physicians, surgeons, and medical hospitals operated for profit hold out to the world their capacity to furnish skilful medical and surgical treatment, and are liable for the malpractice and negligence of themselves and their employees; but a mining corporation is engaged in an entirely different business. Its officers and managers are not skilled in medicine and surgery, and, if they employ a physician or surgeon, they cannot supervise the details of his work or the manner of executing it. They have not the capacity to do so. The company may, for a consideration, enter into a contract with its employees absolutely to furnish medical attention at all times during their service. Such a contract is not ultra vires or beyond the powers of the corporation, and if entered into the corporation is bound by it, and obliged to respond in damages for its breach. When such is the contract the company is bound for the malpractice and negligence of a physician employed by it. But such a contract with a mining company must be proved; it will not be readily implied.

Distinction in Lay Testimony as to Insanity and Sanity—Qualifications of Expert

(State v. Liolios (Mo.), 225 S. W. R. 941)

The Supreme Court of Missouri, Division No. 2, holds in this homicide case, in which the defense was insanity, that there was no error in permitting two lay witnesses to testify that the defendant at the time of the commission of the offense charged was sane, their testimony resting apparently on very slight knowledge and being given without the witnesses being required to state in advance the facts on which their opinions were based. The court says that the rule with respect to this matter is that, when a lay witness is called to prove that a given individual was insane, then such witness must, before expressing his opinion, state the facts on which that opinion is founded. The rule is the same in civil cases. The rule is otherwise, however, when the witness is called to testify that the person whose mental conditions is under inquiry is sane. The reason for this distinction is said to lie in the fact that the sane mind is not characterized by the vagaries and eccentricities which marks the minds and color of the conduct of the insane.

With regard to the qualifications as an expert of a physician who was called by the defense to testify concerning the causes which can or may produce temporary insanity, the court says that the witness testified in substance that for twenty-six years he had been engaged in the general practice of medicine and surgery; that he was a graduate of a medical school; that he had had occasion to observe different kinds of insanity and had had several insane patients, probably a dozen or more, in the course of his practice, and had studied them closely. He was then asked whether or not temporary insanity is ever brought on by grief or by continuous study over one particular subject, coupled with loss of food and sleep. He was also asked to state some of the causes of temporary insanity, and whether or not continual and extended worry over a subject in which the party was deeply interested could produce temporary insanity. The court thinks it clear that there was error in sustaining objections to these questions on the ground that the witness had not shown himself to be qualified. The ruling seemed to have been influenced to some extent at least by the declaration of the witness that he was not an expert; but the decision of that question was for the court, not the witness. This court thinks that the witness was competent, as was also the evidence sought to be obtained from him. It is not necessary that the witness should be a specialist, nor even that he should hold a medical diploma. The extent and character of his special learning, knowledge or skill, how it is derived, and on what it is based, are matters bearing on the weight to be given his testimony, which is a question for the determination of the jury; but these questions do not affect the competency of the witness.

Requisites to Commitment to Colony for Epileptics

(Greenman v. Dixon et al. (Mich.), 180 N. W. R. 487)

The Supreme Court of Michigan says that this was a habeas corpus proceeding to test the detention in the Michigan Farm Colony for Epileptics of Laura Greenman, aged 15 years, the plaintiff's child. The writ was directed to the medical superintendent of the institution, which was established under Chapter 56 of the Compiled Laws of 1915, for the treatment of epileptic persons as distinguished from persons idiotic or insane. The writ was accompanied by a writ of certiorari to the judge of probate of Kent County, to review the proceedings in the probate court of that county resulting in the detention of the child in the institution. A petition for the admission of the child to the institution being filed, Section 1601 of the Compiled Laws requires that notice of the day of hearing shall be served not less than three full days before the time of hearing on certain persons, including the person alleged to be epileptic. The petition in this case was filed on the 29th of the month, and an order was made on that day fixing the day of hearing for the 31st, and directing that personal service of a copy of the order be made on the child at least twenty-four hours previous to the time of hearing. The service of the notice on the child was insufficient as to time. That there was a compliance with the other requirements of the statute as to the notice of the hearing was not shown, nor did it appear that any of those to whom the statute required notice to be given attended at the hearing. The order and commitment were void. The probate court derives its jurisdiction from the statute. To obtain jurisdiction in this case, therefore, the provisions of the statute should have been strictly pursued. The right of the plaintiff to sue out the writ was not questioned. But, though the order and commitment were void, counsel contended that this court, under its common-law jurisdiction over infants, idiots and insane persons, might act with reference to the question from its own conscience for the best interests of the child, following the rule that the placing of a child under proper influence and care is of the first consideration, and this regardless of the irregularity of the commitment. However, the rule stated and authorities cited by counsel were not controlling in this case. Laura Greenman might be committed to the institution and there detained only in the event that she should be found to be an epileptic, and that it should be determined that it was necessary and for her best interest that she should be committed thereto. Such finding and determination in this case were originally for the probate court. Laura Greenman must therefore be discharged from such confinement in the institution on the order, and all proceedings in the probate court in the cause subsequent to the filing of the petition for the admission of the child to the institution be set aside. But at the time of the filing of the petition and the making of the void and invalid order and commitment, Lura Greenman was a ward of the probate court as a delinquent child by virtue of proceedings under the provision of Section 2015 of the Compiled Laws. The supreme court was not advised that the

authority of the probate court over the child under the proceedings had been terminated. It was not terminated by the void order and commitment. So the discharge, as ordered, was without prejudice or hindrance to any right of authority which the probate court might have over the child under the statute and proceedings.

Demand Under Statute to Be Taken to Hospital

(People v. Kaufman (Calif.), 193 Pac. R. 953)

The District Court of Appeal of California, First District, Division 2, in reversing a judgment of conviction of the defendant of violating Section 21 of the motor vehicle act of that state, says that the section, so far as at all pertinent to this case, provides that whenever an automobile collides with any vehicle containing a person, the driver of such automobile shall stop it and render to the occupants of the vehicle collided with all necessary assistance, including the carrying of such occupant to a physician or surgeon for medical or surgical treatment, if such treatment be required, or if such carrying is requested by any occupant of the vehicle struck. Any violation of any of these provisions is made punishable by fine or imprisonment, or both. The purpose and propriety of the act are apparent. It was designed to prohibit, under pain of severe punishment, negligent or wanton drivers of motorcars from seeking to evade civil or criminal prosecution by escape before their identity could be established, and similarly to prohibit all drivers, whether negligent or not, from leaving persons, injured in collisions with cars driven by them, in distress and danger for want of proper medical or surgical treatment. It was not designed to be used as a club to exact monetary settlement for injuries either to persons or to property. One of two automobile drivers who may have been equally negligent in bringing about a collision in which neither driver was injured, by first demanding that he be carried to a hospital or surgeon, could not by the expedition of his demand put the stamp of felony on the other, who might refuse the request made in the terms of the statute, but made in bad faith. The complaining witness in this case gave several versions of what was said after the collision of his car with the defendant's, in one of which he said that he asked to be taken to the receiving hospital; that he was hurt; but, in view of certain statements and their effect on the question of his credibility, and in view of a palpable attempt to collect money from the defendant prior to any suggestion of arrest on this felony charge, the court orders a new trial, directing that the jury be instructed in regard to the proper limitations to be placed on the express language of this highly penal statute. A hearing was denied by the Supreme Court of California.

Time of "Convalescence"

(Heymann v. Continental Casualty Co. (La.), 86 So. R. 550)

The Supreme Court of Louisiana says that the question presented in this case depended on an interpretation of the expression, "loss of time during convalescence," as defined in a health rider attached to a life and accident policy of insurance. It appeared that on Dec. 6, 1916, the plaintiff consulted a physician with regard to some stomach trouble, and thereafter visited the physician's office twice a week, and was treated by the physician until April 9, 1917, at which date his ailment had grown so much worse that he went to an infirmary, in which he was confined for about six days, and thereafter at his home until June 9. The defendant company paid the idemnity stipulated from the loss of time during which the plaintiff was confined at the sanatorium and at his home, or from April 9 to June 9, and for the loss of time during convalescence from the latter date until Oct. 2, 1917. The plaintiff, however, claimed indemnity for loss of time also from Dec. 6, 1916, to April 9, 1917, because he was, during that period, "continuously unable to transact each and every part of his business duties and was under treatment by a legally qualified physician, although not confined within the house." But the supreme court does not consider that he was entitled to that, under his contract, which provided for indemnity "for loss of time during convalescence," and defined "loss of time during convalescence," as used, to mean "that period of time during which the insured is rendered continuously unable to transact each and every part of his business duties and is under treatment by a legally qualified physician, although not necessarily confined within the house." Taken literally, that would include loss of time during which the insured was continuously unable to transact each and every part of his business duties and was under treatment by a legally qualified physician, even if he had never been so seriously ill as to suffer "loss of time during confinement," which was first provided for; but the court thinks that the context showed plainly that there was no liability for indemnity for "loss of time during convalescence," unless and until there was a "loss of time during confinement." "Convalescence," too, as generally understood and as defined by the lexicographers, is the gradual recovery of health or physical strength after illness; yet, if it were otherwise clearly defined in the contract, the parties would be bound by the definition adopted by them.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

March, 1921, **1**, No. 6

*Pathology of Common Puerperal Lesions. J. O. Polak, Brooklyn.—p. 547.
*Version. I. W. Potter, Buffalo.—p. 560.
*Potter Version. Elimination of Second Stage of Labor. Report of 200 Cases. M. P. Rucker, Richmond, Va.—p. 574.
Advantages and Disadvantages of Two-Flap Low Incision Cesarean Section; Report of Eighty-Three Cases Done by Fifteen Operators. A. C. Beck, Brooklyn.—p. 586.
*Study of Two Hundred and Seventy Cases of Dry Labor. F. A. Dorman and E. C. Lyon, Jr., New York.—p. 595.
*Fibroma of Ovary. E. D. Clark and W. E. Gabe, Indianapolis.—p. 603.
Some Indications for Hysterectomy. J. F. Baldwin, Columbus, Ohio. —p. 609.
Luteum Extract. A. P. Leighton, Portland, Me.—p. 613.
Chorioepithelioma Following Hydatid Mole; Report of Case. B. H. Goff, New York.—p. 619.

Pathology of Common Puerperal Lesions.—Polak states that clinical experience has shown us that a well contracted uterus in normal anteversion is capable of emptying itself of its contents if infection is not introduced from the outside. A relaxed uterus may become bent upon itself, be caught behind the pubis and become extremely anteflexed, or it may be caught below the promontory and become retroflexed; and thus prevent the free outflow of lochia, produce a lochiometra and favor the absorption of toxins, resulting in local pain and constitutional disturbances. This is a mechanical process which is immediately relieved by the establishment of free drainage. On the other hand, a putrid or saprophytic endometritis is an infection of the dead and necrotic superficial structures retained within the uterus which produce irritant material composed of bacterial toxalbumoses and ptomaines. These in turn irritate the endometrium and excite a tissue reaction. These superficial necrotic structures have bacteria in them or on them.

Version.—Last year Potter delivered 1,113 women, of which 920 were delivered by podalic version 400 being primiparas and 520 multiparas. He describes his method in detail and gives a complete analysis of his cases. He claims for his method that the woman suffers no pain after the dilatation of the os has taken place; the soft parts are thoroughly dilated and are not for a long time subjected to pressure so that a relaxed, flabby vagina, and torn perineum and prolapsed bladder does not occur; no elevation of temperature; no shock and therefore more resistant to possible infection; no bleeding of any moment and the uterus remains contracted and in better condition after the delivery is effected. The lochia is less in amount. The baby's head is subjected to less compression injury than is the result after a long and tedious labor and especially after a forceps delivery. Of lesser importance but yet a justifiable consideration, the attending accoucheur is worked less, has more leisure and finds his specialty an agreeable one to practice, instead of what it is now, the bugbear of medicine.

Potter Version.—The Potter version is endorsed by Rucker because it protects the maternal soft parts against undue injuries.

Dry Labor.—It would seem established by the figures given by Dorman and Lyon that the length of time during which the membranes are ruptured before labor is not an important factor, either in prolonging labor or in producing morbidity or fetal mortality. Protracted duration of pains in dry labor, on the other hand, greatly increased the morbidity and tripled the fetal mortality. The morbidity risk increased consistenly in proportion to the number of vaginal examinations. The use of the dilating bag, even when employed to induce labor, did not reduce morbidity and seemed unfavorable to the fetus. Dry labor requires operative termination in one third of the births. The risks of breech labor are much greater if the membranes are ruptured early. The cesarean operations in the series gave very good results, despite the grave prognosis usually given to abdominal hysterotomy in dry labor. Dry labor increases puerperal morbidity 8.5 per cent. and fetal mortality 3 per cent., the dangerous elements being prolonged labor, intra-uterine contamination (usually from vaginal examinations), and the operative terminations.

Fibroma of Ovary.—Clark and Gabe report a case in a woman aged 46. A diagnosis of pelvic tumor was made before operation. They state that the diagnosis is dependent solely on microscopic examination. In the presence of a hard unilateral, movable tumor with ascites, where the more common causes of ascites can be ruled out, ovarian fibroma is highly probable. The treatment is operative; the prognosis good.

American Journal of Public Health, Boston

February, 1921, **11**, No. 2

Value of Animal Experimentation to Mankind. G. H. Whipple, Berkeley, Calif.—p. 105.
Who Shall Nurse the Sick? J. D. Robertson, Chicago.—p. 108.
Value of Public Health Survey in Public Health Campaign. M. P. Horwood and J. Schevitz.—p. 113.
Epidemiologic Study of Smallpox in California. J. N. Force, Berkeley, Calif.—p. 119.
Vaccination and Student. R. L. Wilbur, San Francisco.—p. 126.
Medical and Anti-Medical Smallpox Legislation in California. C. H. Rowell, Fresno, Calif.—p. 128.
Outbreak of Smallpox; Methods of Control. L. J. Roper, Portsmouth, Va.—p. 138.
Results of Vaccination in Philippines. V. G. Heiser, New York.—p. 142.
Common Sense Versus Custom in Appointment of Health Officials. H. B. Larner, Montclair, N. J.—p. 143.
Sanitation in Venezuela and Colombia. J. L. Crane, Jr., Cambridge, Mass—p. 145.
Detection of Manural Pollution in Milk by Anaerobic Spore Test. J. Weinzirl, Seattle, Wash.—p. 149.
Breast Feeding in Reduction of Infant Mortality. J. P. Sedgwick and E. C. Fleischner, San Francisco.—p. 153.

March, 1921, **11**, No. 3

Industrial Wastes in Relation to Water Supplies. W. Donaldson, New York.—p. 193.
Mothercraft Instruction for School Girls. M. B. Dickinson, Boston.—p. 199.
Lactose Broth for Isolating Bacterium Coli from Water. E. A. Wagner and W. F. Monfort, St. Louis.—p. 203.
Hospital Betterment Movement in California. W. E. Musgrave, San Francisco.—p. 208.
What New York State has Done in Health Centers. B. R. Rickards, Albany, N. Y.—p. 214.
Present Status of Health Center. W. H. Brown, Washington, D. C.—p. 218.
Is Health Center a Health Center? Need of a Positive Health Ideal in Health Center. P. S. Platt, New Haven, Conn.—p. 221.
Baby Health Centers. L. A. DeVilbiss, Washington, D. C.—p. 231.
Sanitary Control of Public Swimming Pool. G. W. Simons, Jr., Jacksonville, Fla.—p. 234.
Nomenclature of Tuberculosis. N. van Patten, Cambridge, Mass.—p. 239.
Comparative Studies of Diphtheria Cultures of Loeffler's Medium with Original Swabs Transported by Mail. C. C. Young and M. Crooks, Lansing, Mich.—p. 241.

Archives of Internal Medicine, Chicago

May 15, 1921, **27**, No. 5

Responses of Circulation to Low Oxygen Tension. C. W. Greene and N. C. Gilbert, Columbia, Mo.—p. 517.
Determination and Significance of Electrical Axis of Human Heart. F. R. Dieuaide, Baltimore.—p. 558
*Paroxysmal Tachycardia with Reference to Nomatopic Tachycardia and Rôle of Extrinsic Cardiac Nerves. A. M. Wedd, Pittsburgh.—p. 571.
*Iron and Arsenic as Influencing Blood Regeneration Following Simple Anemia. G. H. Whipple and F. S. Robscheit, San Francisco.—p. 591.
*Creatinin Coefficient in Pulmonary Tuberculosis. T. Raphael and N. Eldridge, New York.—p. 604.
Standards for Normal Basal Metabolism. J. H. Means and M. N. Woodwell, Boston.—p. 608.
*Blood Urea Nitrogen in Acute Intestinal Obstruction. H. W. Louria, New York.—p. 620.

Paroxysmal Tachycardia.—Six cases of paroxysmal tachycardia which illustrate moot points and the variety of clinical conditions in which the disorder occurs are recorded by Wedd. Two occurred in elderly individuals in whom there are signs of degenerative changes involving the heart and aorta. A third case is an example of a group of paroxysmal tachycardias that are usually considered to be of reflex origin. Three of the cases seem to fulfill the requirements of the "maladie de Bouveret." In this connection the rôle of the extrinsic nerves of the heart in paroxysms of tachycardia has been considered and it is believed unnecessary to postulate the existence of an underlying toxemia which renders the heart abnormally susceptible to nerve impulses, for both of these factors may well be one and the same thing, and it is hardly necessary at present to attempt to differentiate neuropathology from chemical pathology in the autonomic nervous system.

Value of Iron and Arsenic in Anemia.—Whipple and Robscheit claim that iron in the form of Blaud's pills is inert when given under controlled conditions in anemia periods under the conditions of these experiments. Iron in the form of ferric citrate (subcutaneously) and ovoferrin (orally) has no significant effect on the curve of hemoglobin regeneration under controlled conditions. Iron forming a part of a standard salt mixture (McCollum and Simmonds) may be concerned in a somewhat favorable anemia reaction, but even this reaction is not surely related to the iron salt. At best this reaction does not compare favorably with those recorded in association with certain potent diet factors. Iron in the form of hemoglobin (organic iron) may be concerned in the somewhat favorable reaction observed following the administration of hemoglobin orally, intraperitoneally of intravenously. But the iron may be less concerned in this reaction than the pyrrol complex. Arsenic in the form of sodium cacodylate or Fowler's solution is inert in these same anemia periods. No drug has been tested which can compete with the meat factors in stimulating a rapid regeneration of hemoglobin during these anemia periods induced by simple hemorrhage. These carefully controlled experiments give no support to the time honored custom of administering iron and certain other drugs in conditions of simple anemia.

Creatinin Coefficient in Tuberculosis.—On the basis of the data secured in their study, it seems to Raphael and Eldridge that, in apparently clinically uncomplicated cases of pulmonary tuberculosis, the creatinin coefficient is slightly below the average normal figure, and that it reaches its greatest height in middle grade cases, i. e., those in which increased catabolism, due to disease activity, has not yet been offset by excessive tissue waste and generally lowered vitality.

Blood Urea Nitrogen in Acute Intestinal Obstruction.—Seven cases of acute intestinal obstruction are described by Louria in all of which there was an increase in blood urea nitrogen. In one case in which the blood urea nitrogen was 130 mg. per hundred c.c. the phenolsulphonephthalein excretion was found to be 58 per cent. in two hours and ten minutes. In one case, a generalized urticarial eruption appeared while the patient was convalescing from an acute ileus. As the substance which causes the toxemia of acute intestinal obstruction.

Archives of Ophthalmology, New York

May, 1921, **50**, No. 3

*Ocular Symptoms in Hypophyseal Disease with Acquired Syphilis. G. E. de Schweinitz, Philadelphia.—p. 203.
Control of Pituitary Lesions, as Affecting Vision, by Combined Surgical Roentgen-Ray and Radium Treatment. C. H. Frazier, Philadelphia.—p. 217.
*Molluscum Conjunctivitis. H. Gifford and S. R. Gifford, Omaha.—p. 227.
Lacrimal Sac Extirpation Simplified. A. Greenwood, Boston.—p. 234.
Two Unusual Cases of Pterygium. F. Yano, Nagoya, Japan.—p. 239.
Bilateral Circumpapillary Chorioretinitis with Detachment of Retina in Syphilis. A. Knapp, New York.—p. 242.
Case of Lipaemia Retinalis with Hypotony in Diabetic Coma. M. Cohen, New York.—p. 247.

Eye in Pituitary Disease with Acquired Syphilis.—None of the ocular symptoms depending on pituitary body disease, de Schweinitz says, is of itself characteristic of acquired syphilis, and these symptoms, therefore, do not differ from those exhibited by patients who are not syphilitic. It is possible, even probable, that a careful analysis of cases of pituitary body disorders, with exterior ocular muscle palsies, would show a greater incidence of such paralyses in syphilitic subjects, especially in secondary involvements from bony or dural syphilis. Naturally, if a patient with acquired syphilis develops the symptoms of hypophyseal disease, active specific treatment should, and would, be instituted. If in such circumstances the gland itself is not either primarily or secondarily syphilitic, the ocular signs of pituitary body involvement would not yeld, and surgical interference is indicated. If the gland is the seat of syphilis, being gummatous, for instance, a freely employed specific treatment may result in satisfactory and even brilliant results. All patients, therefore, with pituitary body disorder, who also have constitutional syphilis, or from whom the suspicion of such an infection cannot be eliminated, should have the advantage of a full trial of this therapeutic test. In stages of glandular insufficiency the efficacy of organotherapy is probably enhanced by simultaneous administration of mercury (preferably by inunctions) and the gland extracts, even though the presence of syphilis is not demonstrable by the usual methods. de Schweinitz suggests the probability that a combination of thyroid and pituitary gland extracts is more efficient than either of the extracts alone, and that this combination, associated with mercury, is more effective than is an extract of one gland, even though given in conjunction with unguentum hydrargyrum.

Molluscum Conjunctivitis.—The Giffords have seen, in the last fifteen years, about a dozen cases in which persistent irritation of the conjunctiva has been kept up by one or two molluscum nodules at the edge of the lids. In none of them has there been any other evidence of the disease on the uncovered portions of the body, and the patients know of no other nodules of the sort, but they were not stripped for examination. The diagnosis, except in the cases mentioned, was made from the characteristic appearance of the nodule. In more than three fourths of the cases only a single nodule was present. In one of the older cases, one of the Giffords inoculated a whole nodule from the cheek under his own skin, with negative results.

Arkansas Medical Society Journal, Little Rock

May, 1921, **17**, No. 12

Whose Fault Is It That Cancer Is Not More Frequently Cured? F. J. Taussig, St. Louis.—p. 217.

Boston Medical and Surgical Journal

May 26, 1921, **184**, No. 21

*Infraction of Second Metatarsal Head. C. F. Painter, Boston.—p. 533.
Importance of Public Health Nurse in Tuberculosis Campaign. J. H. Pratt, Boston.—p. 537.
Cerebral Hemorrhage of New-Born. F. C. Irving, Boston.—p. 539.
Essential Factors of Cancer Causation. J. E. Shannon, San Diego, Calif.—p. 542.
Public Health Considerations Relating to Influenza, Pneumonia and Allied Epidemics. Epidemiologic Point of View. F. G. Crookshank. London.—p. 548.

Infraction of Second Metatarsal Head.—The case reported by Painter appears to represent one of a group of traumatic lesions occurring usually as the result of "stubbing" the toe. It is probable that because the disability is not great, they are regarded by the patients as sprains; the majority of them probably take care of themselves and only the ones where separation of the cartilage is complete, seek out the doctor for advice. Some are probably treated as anterior arch trouble or metatarsalgia, and if the treatment is kept up long enough, and the separation of cartilage is not complete, it is as good treatment as if the condition had been more accurately diagnosed.

Colorado Medicine, Denver

May, 1921, **18**, No. 5

Stenosis of Esophagus. T. E. Carmody, Denver.—p. 95.
Hypertrophic Tuberculosis of Ileocecal Region. A. S. Taussig and O. M. Shere, Denver.—p. 102.
Abdominal Pain; Its Significance and Some Unusual Operative Findings. C. E. Tennant, Denver.—p. 106.
Branchial Fistulas; Report of Case. L. I. Miller, Denver.—p. 110.
Tuberculosis of Eye. W. C. Finnoff, Denver.—p. 113.

Florida Medical Association Journal, St. Augustine and Jacksonville

March, 1921, **7**, No. 9

Treatment of Perforating Wounds of Eyeball; Report of Cases. J. W. Taylor, Tampa.—p. 134.
Removal of Foreign Bodies from Air and Upper Food Passages. L. C. Ingram, DeLand.—p. 137.
Minor Eye Injuries. W. H. Adams, Jacksonville.—p. 139.
Vertigo: Report of Case. A. K. Wilson, Jacksonville.—p. 141.
Acute Surgical Abdomen. J. W. Alsobrook, Plant City.—p. 143.
Emphasizing Some Features of Acute Pyelitis in Adult. R. H. McGinnis, Jacksonville.—p. 144.

Indiana State Medical Association Journal, Fort Wayne

March 15, 1921, **14**, No. 3

Diagnosis and Treatment of Diseases and Injuries of Spine. G. D. Marshall, Kokomo.—p. 69.
Duty of State to Epileptic. W. C. Van Nuys, Newcastle.—p. 72.
Significance of Epilepsy. C. A. Marsh, Newcastle.—p. 76.
Physician. F. B. Wynn, Indianapolis.—p. 82.

April 15, 1921, **14**, No. 4

Student Health at Indiana University. J. E. P. Holland, Bloomington.—p. 103.
Benefits of Compulsory Military Training. C. E. Reed, Culver.—p. 105.
Malnutrition of School Children. O. B. Nesbit, Gary.—p. 108.
Clinical Blood Chemistry Tests. J. O. Ritchey, Indianapolis.—p. 110.
Physician. Fads and Fashions of Medical Practice. F. B. Wynn, Indianapolis.—p. 117.

May 15, 1921, **14**, No. 5

Pelvic Lymphangitis. C. Habich, Indianapolis.—p. 139.
*Polyneuritic Syndrome in Young Children. M. K. Miller, South Bend.—p. 144.
Treatment of Aged Patients with Benign Prostatic Tumor. F. Crockett, Lafayette.—p. 145.
Subcutaneous Injuries to Liver. J. Thomson, Garrett.—p. 152.
*Failure of Modern Medicine to Properly Evaluate Physiotherapy. F. B. Wynn, Indianapolis.—p. 153.

Polyneuritic Syndrome in Children.—A case exemplifying a "polyneuritic syndrome" is presented by Miller. The predominant symptoms consist of listlessness combined with extreme restlessness, rapid loss of weight, profuse perspiration, necrosis of gums and alveolar processes with loss of teeth, swollen, tender, cold, bluish-red fingers and toes with maceration of the skin over them, and diminished reflexes. The picture was associated with slight fever, leukocytosis, and suggested the result of an infection.

Physiotherapy.—The main purpose of Wynn's paper is to show that the medical profession has failed to measure up to duty in the study and application of the common natural agencies in relation to the cause and cure of disease. Physicians have failed, first because medical schools have not taught these things thoroughly or systematically; because hospitals have not provided the facilities or a staff or teachers thoroughly competent to instruct; and third because nurses have not received efficient instruction in carrying out the methods. Neglect to give these subjects the attention they merit in therapy has been more responsible than aught else for the development of recent sects in medicine.

Journal of Immunology, Baltimore

May, 1921, **6**, No. 3

*Are Agglutinins Lipoidal in Nature? C. Krumwiede and W. C. Noble, New York.—p. 201.
*Relation Between Absorption of Antibodies and Isolated Protein Bodies. R. Umemura, Tokyo.—p. 205.
*Specificity of Anti-organ Serums. M. S. Fleisher and N. Arnstein, St. Louis.—p. 223.
Polyvalent Antibody Response to Multiple Antigens. F. M. Huntoon and S. H. Craig.—p. 235.

Agglutinins Not Lipoidal.—There was nothing in the experiments performed by Krumwiede and Noble to indicate that agglutinins are lipoidal in character to the extent that they are soluble in lipoid solvents. In no case were they able to reduce the titer of extracted serums beyond a reduction which is explainable by the manipulation of the serum. In no case was there a transfer of agglutinins by the extracting solvent where they could not at the same time demonstrate a transfer of antigenic proteins.

Relation Between Absorption of Antibodies and Proteins.—The rate of absorption of antibody Umemura claims depends on the quanity of proteins associated with it. The quanity of proteins contained being the same, the rate of absorption of antibody associated with isolated protein bodies is slower than that of the whole normal serum. There is no difference in the rate of absorption of the antibodies of each isolated protein. Hence there is an advantage in preferring isolated protein bodies, containing a minimum of protein, in the use of antibodies.

Specificity of Antiorgan Serums.—Fleisher and Arnstein were able to demonstrate tissue specificity in liver, kidney, spleen, brain, muscle and testicle. The methods of demonstrating this specificity and the degree of the specificity varies in the different tissues. In some cases the specificity is absolute, in others it is only relative. The authors believe that the difficulty in demonstrating this specificity lies apparently in the extreme complexity of the biologic composition of the tissues, and possibly in the interrelationship existing between various tissues.

Journal of Laboratory and Clinical Medicine, St. Louis

February, 1921, **6**, No. 5

*Comparative Values of Complement Fixation Methods in Syphilis. H. D. McIntyre, E. A. North, and A. P. McIntyre, Cincinnati.—p. 233.
*Primary Lymphosarcoma of Stomach. A. C. Broders, A. E. Mahle, Rochester, Minn.—p. 249.
Etiology of Acute Inflammations of Nose, Pharynx and Tonsils. S. Mudd, S. B. Grant and A. Goldman, St. Louis.—p. 253.
Report of Five Thousand Bloods Typed Using Moss's Grouping. W. L. Culpepper and M. Ableson, Detroit.—p. 276.

Comparative Value of Complement Fixation Methods in Syphilis.—Cholesterolized antigen properly prepared and titrated, the authors claim, yields from 10 to 15 per cent. more positive Wassermann reactions on syphilitic serums than does the plain antigen. The Hecht-Gradwohl test, when positive in the temperature zone, is diagnostic of syphilis. It will yield 15 per cent. more positive reactions than does the classical Wassermann reaction. The Wassermann test employing complement fixation in the icebox at 2 C. will yield a much higher percentage of positive reactions than does the Hecht-Gradwohl test employing complement fixation in the water bath. With complement fixation under the same conditions, however, the tests practically agree. The three serologic reactions appear in the serum and disappear under treatment in the following order: The icebox Wassermann reaction is the first to appear positive, the Hecht-Gradwohl test follows, the water bath Wassermann reaction disappears first, the Hecht-Gradwohl reaction next, and icebox reaction last.

Primary Lymphosarcoma of Stomach.—In a series of twelve cases of lymphosarcoma of the stomach observed in the Mayo Clinic from Jan. 1, 1913, to Dec. 1, 1920, the average duration of clinical symptoms was six and eight hundredths months. Eleven patients gave a history of loss of weight, nine of pain, seven of vomiting, and two of bleeding. two had histories suggestive of previous ulcer. The average age of the patients was forty-six and twenty-five hundredths years; the youngest patient was 16, and the oldest, 62. Eleven were males. In seven cases the clinical diagnosis was carcinoma; in one ulcer; in one abdominal tumor, probably inflammatory; in one lesion of the stomach, probably malignant; in one pyloric obstruction; in one upper abdominal tumor, probably of the pancreas. Resection was performed in six cases; in the other six the condition was found to be inoperable on exploration. The neoplasms were located for the most part in the pyloric portion of the stomach. Two of the six patients who had resections died of peritonitis following operation. One patient died four months after operation with a recurrence in the lower bowel, liver, and remainder of the stomach. One returned practically five months after operation in poor condition; he had a mass in the left epigastrium which probably was a recurrence. Another returned practically seven months after operation, apparently with a recurrence. The remaining patient was operated on too recently to be considered in the results. Four of the patients who had explorations are dead. They lived for from six weeks to four months after exploration.

Journal of Orthopaedic Surgery, Lincoln, Nebr.

May, 1921, **3**, No. 5

*Backache and Anatomic Variations of Lumbosacral Region. A. O'Reilly, St. Louis.—p. 171.
*Mechanism of Human Foot in Walking. A. Gibson, Winnipeg, Manitoba.—p. 188.
Reconstructive Surgery of Traumatic Foot and Ankle Deformities. A. Cotton, Baltimore.—p. 196.
Fracture of Forearm in Children. J. Grossman.—p. 217.
Non-Operative Treatment of Scoliosis. W. Truslow, Brooklyn.—p. 228.

Backache and Anatomic Variations of Lumbosacral Region. Roentgenograms of 300 patients with backache were examined by O'Reilly. Tracings were made from 199 and these were studied for variation in the sacro-iliac joints, the transverse processes of the fifth lumbar, and other changes. These tracings could be divided into three definite types. In Type I the sacrum is fairly high between the ilia. It is fairly broad and the upper border extends to, or a little beyond the line of the iliac crests, before it curves to form the line of the sacro-iliac joint. The crests of the ilia curve at an angle of about 45 degrees. The distance between the posterior portion of the crest and the line of the sacro-iliac is fairly broad. This is a mixed type and is found in both males and females. In Type II the crests are almost vertical. The outlines of the posterior spines of the ilia are sharp and angular. The general impression is that the sacrum is narrow and is set low between the crests. The line of the sacro-iliac is well beyond the shadow of the crests and the distance has a tendency to asymmetry. The sacro-iliac may be either broad or shallow. This is almost exclusively a male type. Type III somewhat resembles Type I, but the sacrum is wider; the curve of the sacro-iliac begins before it crosses the shadow of the ilium, so that there is a distinct notch. In Type III, the shadow of the sacro-iliac is more shallow than in Types I and II. This is a female type. All these types show some variations and many irregularities.

Heel on Boot.—From Gibson's study the fact emerges that the use of a heel on the boot involves a sacrifice of stability. But since the ground we tread is for the most part smooth, and comparatively free from obstacles, a small sacrifice of this may be made with impunity. If it be admitted that the use of a heel to the boot economizes expenditure of energy in locomotion, the use of a heel of moderate height is a measure of practical utility. More important than the height of the heel is its area. This should always be large. For practical purposes a heel not exceeding 1 inch or at the most 1½ inches in height permits of active use of the calf muscles, does not excessively throw the weight forward, and yet takes off a considerable portion of the muscular strain of walking. One must bear in mind that in walking the minimum of muscular effort is made. If sufficient is called for to produce tiring of the muscles, the result will be that more and more weight will be thrown on the ligaments, the muscles themselves will be used as ligaments, and there will be consequent stretching with development of the symptoms of foot strain.

Journal of Urology, Baltimore

March, 1921, **5**, No. 3

*Tumors of Vesical Neck and Prostatic Urethra and Their Relation to Treatment of Chronic Prostatitis. L. P. Player and C. P. Mathe, San Francisco.—p. 177.
Follow-Up Record in Cases of Tumor of Bladder. J. L. Crenshaw, Rochester, Minn.—p. 211.
*Urinary Antisepsis: Secretion of Antiseptic Urine by Man Following Oral Administration of Proflavine and Acriflavine. E. G. Davis, Omaha.—p. 215.
*Action on Gonococcus of Various Drugs Commonly Used in Prophylaxis and Treatment of Gonorrhea. E. O. Swartz and D. M. Davis, Baltimore.—p. 235.
Submucous Ulcer of Bladder in Male. H. C. Bumpus, Jr., Rochester, Minn.—p. 249.
*Surgical Treatment of Gonorrheal Epididymitis. H. W. McKay, Charlotte, N. C.—p. 255.
Sterilizer for Cystoscopes. A. Randall and S. W. Moorhead, Philadelphia.—p. 265.

Tumors of Bladder Neck.—Observations made by Player and Mathe through the cysto-urethroscope revealed three types of tumors, the morphologic appearances of which were as follows: (*a*) True polypi with pedunculated cases; (*b*) polypoid masses with sessile bases; (*c*) simple edematous excrescence. Histologic study of these tumors showed them to be made up either of glandular or of connective tissue with

a general infiltration of round cells, polymorphonuclear leukocytes and plasma cells throughout the growth, associated with chronic granulation tissue due to a focus of infection which is continued. In those cases in which the vesicular and prostatic secretions were found to be greatly improved, where, however, a continuance of symptoms occurred and polypi or polypoid masses existed, the symptoms did not clear up until these tumors were finally destroyed by fulguration. It is pointed out that these growths can act as a source of irritation and so cause a reinfection of the prostate and the seminal vesicles. On the removal of these tumors, 73 per cent. of these resistant cases showed marked improvement with probable cure; 20.5 per cent. showed slight improvement, and 5.8 per cent. showed no improvement.

Urinary Antisepsis.—Proflavine and acriflavine, administered by mouth in 0.1 gm. and even 0.05 gm. dosage, to normal individuals Davis states is secreted in the urine in sufficient concentration to render the latter an unfit culture medium for the colon bacillus and staphylococcus, provided the reaction of the urine is alkaline. The same effect is inconstantly obtained in acid urine. This antiseptic action becomes evident about two hours after drug administration, and persists for at least eight hours. Control samples of urine, obtained before drug administration and twenty-four hours later, uniformly permitted a profuse growth of both organisms. Colon bacilli survive for only about eight hours in dye-containing alkaline urine obtained from patients four hours after the administration of acriflavine, or proflavine, 0.05 gm. Preliminary experiments indicate that intravenous administration of smaller dosage causes more prompt and efficient antiseptic action. The indiscriminate use for this purpose of products marketed under the name of proflavine or acriflavine, but of undetermined purity and toxicity and efficiency Davis states is distinctly inadvisable.

Effects of Germicides on Gonococcus.—Silvol, cargentos, argyrol and protargol according to Swartz and Davis have a definite but not very high germicidal value against the gonococcus. For all these substances the values are of the same order. Phenol, tricresols, potassium permanganate, zinc sulphate and boric acid have too little germicidal value against the gonococcus to be useful as germicidal in the urethra. Chlorazene has a moderate germicidal value against the gonococcus. Potassium mercuric iodid has a high germicidal value against the gonococcus. The gonococcus is many times more susceptible to the drugs tested than are *B. coli* or *Staphylococcus aureus.*

Surgical Treatment of Gonorrheal Epididymitis.—The open operation with drainage McKay claims is the most efficient and happiest way to terminate the most troublesome complication of gonorrhea.

Maine Medical Association Journal, Portland

May, 1921, **11**, No. 10

Clinical Psychiatry. F. C. Tyson, Augusta.—p. 301.
Spirit of Our Calling. W. E. Lincock, Caribou.—p. 305.

Medical Record, New York

May 28, 1921, **99**, No. 22

*Gastric Ulcer and Its Treatment. J. B. Moynihan, Leeds, England.—p. 903.
Hormones and Emotions. S. Naccarati, New York.—p. 910.
Petroleum Gas Poisoning, Especially is Mexican Field. D. Brown, New York.—p. 915.
Intussusception in Infancy and Childhood. With Report of Successful Case of Resection for Gangrenous Intussusception. W. M. Silleck, New York.—p. 918.
Treatment of Arthritis by Nonspecific Therapy. I. Betz, Brooklyn.—p. 920.
Bloodless Surgery in Flat Foot. W. T. Clark, New York.—p. 921.

Treatment of Gastric Ulcer.—Moynihan's record of cases since 1909 is as follows: gastrectomy, 96 cases, 2 deaths, 2.08 per cent.; gastro-enterostomy: posterior, 701; anterior, 8; in Y, 13; author's operation, gastro-enterostomy in Y with jejunostomy, 14; gastro-enterostomy in Y with gastrostomy, 2; total, 748 cases, 7 deaths, 0.9 per cent. In many cases the appendix was removed, and in some the gallbladder was drained or excised. In two cases ovarian cysts were removed also. Excision of gastric or duodenal ulcer with or without gastro-enterostomy, including Balfour's operation, 43 cases, 1 death. Hourglass stomach, treated by multiple short-circuiting operations; gastro-enterostomy combined with gastrostomy, etc., 19 cases, 1 death. Jejunostomy, 4 cases, 1 death. Grand total, or excluding 32 cases of jejunal ulcer in which there were two deaths, the total number of gastric and duodenal ulcers is 878, with 10 deaths, a mortality of 1.11 per cent.

Missouri State Medical Association Journal, St. Louis

May, 1921, **18**, No. 5

*Pupil as a Diagnostic Aid in Neurosyphilis. E. L. Russell, Kansas City.—p. 149.
Two Cases of Pellagra or Acrodynia in Children. J. Zahorsky, St. Louis.—p. 153.
Pneumoperitoneum. L. R. Sante, St. Louis.—p. 155.
*Draining Gallbladder by Instilling Magnesium Sulphate into Duodenum. F. Neuhoff, St. Louis.—p. 158.
Paralysis Fly Lucilia Caesar. Some Difficulties Encountered in Obtaining Its Toxi Virulent Larvae for Experimental Purposes. E. W. Saunders, St. Louis.—p. 160.

Pupil as Diagnostic Aid in Neurosyphilis.—Admitting his inability to locate the lesion more definitely in syphilis of the nervous system by the pupillary findings, Russell insists that these are of great assistance added to other symptoms, especially if one takes up thoroughly the disturbances in motility, that is the muscular pareses.

Draining Gallbladder by Magnesium Sulphate.—In the cases of four patients who had no gallbladders, the magnesium sulphate brought about the same amount of bile as in persons with the gallbladder intact. However, it was never acid, was of a lighter color, less viscid, more transparent and of lower specific gravity than in the cases of patients having gallbladders even though normal. This confirms Lyon's contention, that magnesium sulphate injection drains the gallbladder. It likewise shows that the magnesium sulphate stimulates greatly the flow of bile direct from the liver, and what is obtained after its employment is gallbladder bile mixed with a large but probably variable amount of bile freshly secreted by the liver. From a therapeutic point of view, Neuhoff thinks the application of magnesium sulphate through the duodenal tube has a definite field of usefulness. In early cases of gallbladder infection and bile stasis it no doubt may, by draining the gallbladder, prevent the more dangerous stages of infection or the formation of stones. It ought to be employed, at intervals, after cholecystectomy to prevent the dangerous sequels to which these patients are often liable.

New York State Journal of Medicine, New York

May, 1921, **21**, No. 5

*Some Unusual Experiences in the Diagnosis and Treatment of Intermittent Hydronephrosis. G. E. Brewer, New York.—p. 151.
Surgical Physiology and Pathology of the Colon from the Roentgen-Ray Standpoint. J. T. Case, Battle Creek, Mich.—p. 156.
Prevention of Diphtheria. W. H. Park, New York.—p. 158.
*Mesenteric Vascular Occlusion. R. G. Loop, Elmira, N. Y.—p. 164.
Pathology and Treatment of Corneal Ulcers. N. W. Price, Niagara Falls, N. Y.—p. 168.
Psychoneuroses of War. C. R. Payne, Wadhams, N. Y.—p. 171.
Medical Education. E. A. Vander Veer, Albany, N. Y.—p. 173.
*Syphilis in Children of School Age with Heart Disease. B. F. Donaldson, New York.—p. 176.
Acute Mastoiditis in the Aged. T. L. Saunders, New York.—p. 177.
The Nursing Situation. W. G. Thompson, New York.—p. 178.

Diagnosis of Intermittent Hydronephrosis.—In the cases cited by Brewer the symptoms most often were simply those of an intermittent hydronephrosis from any cause, and calculus somewhere in the upper urinary tract, was the preoperative diagnosis in the majority of instances. In at least one third of the cases of ureteral calculus on the right side in which Brewer operated, there had been performed a previous operation for removal of the appendix or an exploration of the gallbladder.

Mesenteric Vascular Occlusion.—Seven cases are reported by Loop. The significance are (1) incomplete intestinal obstruction—small ineffectual bowel movements, (2) the slight degree of muscular rigidity as compared to the severity of the pain, (3) moderate distention without tympany, (4) the absence of pulse or temperature reaction except after the development of peritonitis, and (5) the self-limited vomiting. The presence of blood in the vomitus and stools unless other-

wise explained is another valuable sign, but was observed by me only twice.

Syphilis in Children with Heart Disease.—Of 183 Wassermann tests made on eighty-four children with heart disease only one positive reaction was obtained by Donaldson. It would seem that syphilis is not a very great factor in the causation of heart disease in children.

Philippine Journal of Science, Manila

December, 1920, **17**, No. 6

Relation of Salt Proportions and Concentrations to Growth of Young Wheat Plants in Nutrient Solutions Containing a Chlorid. S. F. Trelease.—p. 527.
New Genus of Myrsinaceae from the Philippines. E. D. Merrill.—p. 605.
Low-Sun Phenomena in Luzon. III. Marine Sunsets and Duration of Sunset on Manila Bay and China Sea. W. J. Fisher.—p. 607.
Malayan Bees. T. D. A. Cockerell, Boulder, Colo.—p. 615.
Trematodes from Philippines. E. C. Faust, Peking, China.—p. 627.
Black Spot of Citrus Fruits Caused by Phoma Citricarpa McAlpine. H. A. Lee.—p. 635.

Public Health Journal, Toronto

March, 1921, **12**, No. 3

Fundamental Facts in Organization. A. D. Blackader.—p. 97.
Place of Occupational Therapy in Mental Hygiene. N. L. Burnette.—p. 103.
Statistics and Publicity in Child Welfare Work. C. A. Hodgetts.—p. 107.
Fighting Disease.—p. 114.
Forward Movement in Public Health and Its Relationship to Social Advance. C. Miller.—p. 120.
Victorian Order of Nurses. Prenatal Visiting Under the V. O. N. E. Haslam.—p. 127.

Rhode Island Medical Journal, Providence

February, 1921, **4**, No. 2

Spinal Mechanism in Dual Rôle. F. E. Peckham, Providence.—p. 19.
Future Treatment of Disease. D. L. Richardson, Providence.—p. 23.
Heart and Its Relation to Mental State. "A Country Doctor" in Rhode Island.—p. 27.

Virginia Medical Monthly, Richmond

May, 1921, **48**, No. 2

History of Ophthalmology and Otolaryngology in Virginia. J. A. White, Richmond.—p. 59.
Diabetes Insipidus. Report of Case. J. S. Davis, University.—p. 63.
Retrobulbar Neuritis. H. Woods, Baltimore.—p. 69.
Case of Horseshoe Kidney. R. C. Bryan, Richmond.—p. 75.
Inadvisability of Making Hurried Diagnosis in Cases of Suspicious Tuberculosis. J. G. Marston, Norfolk.—p. 80.
Undergraduate Instruction in Tuberculosis. W. C. Klotz, Charlottesville.—p. 84.
Infections of Paranasal Sinuses. J. W. White, Norfolk.—p. 87.
Pediatric Clinics: Clinical and Administrative Management. S. Newman, Danville.—p. 89.
Special Society: Its Purposes and Possibilities. H. H. McGuire, Winchester.—p. 92.
Philosophy of Medical Diagnosis. W. T. Vaughan, Richmond.—p. 94
Fractures of Forearm, Including Injuries to Elbow and Wrist Joints. E. E. Feild, Norfolk.—p. 98.
Cystitis. R. S. Fitzgerald, Richmond.—p. 100.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Surgery, Bristol

April, 1921, **8**, No. 32

*Carcinoma of Appendix Causing Diverticula of Appendix and Acute Appendicular Obstruction, D. P. D. Wilkie.—p. 392.
*Treatment of Congenital Hypertrophic Stenosis of Pylorus by Rammstedt's Operation. R. A. Ramsay.—p. 397.
Development of Cysts in Connection with External Semilunar Cartilage of Knee Joint. R. Ellerenshaw.—p. 409.
*Five Hundred Goiter Operations; Special Reference to After Results. J. Berry.—p. 413.
Intestinal Stasis Followed by Cystic Dilatation of Cecum, without Intestinal Obstruction. W. G. Spencer.—p. 452.
*Closure of Septic Bone Cavities Following Gunshot Wounds by Muscle Flaps. D. Wood.—p. 460.
*Case of Persistent Vitelline Artery: Fatal Intra-Abdominal Hemorrhage from Rupture of Vessel. J. Fraser and J. E. McCartney.—p. 478.
Capillary Angeiomatosis of Parotid Gland (Partial Excision). C. Nicory.—p. 481.
Babcock's Extraction Operation for Varicose Veins. G. H. Colt.—p. 486.
Study of Loose Bodies Composed of Cartilage or of Cartilage and Bone in Joints. A. G. T. Fisher.—p. 493.
Downward Dislocation of Patella. H. Rutherfurd.—p. 524.
Carcinoma of Breast. G. W. Nicholson.—p. 527.

Diverticulum of Appendix Causing Intestinal Obstruction.—In the three cases cited by Wilkie the presence of the growth in the appendix obstructing its lumen led to very definite acute symptoms which called for operation. The carcinoma situated near the proximal end of the appendix gave rise to symptoms of acute appendicular obstruction which in two of the cases called for immediate surgical intervention, and in the third case led to repeated attacks until the appendix was removed. In two of the cases the obstruction, before finally occluding the lumen completely, had caused a chronic increase in tension in the appendix leading to the formation of diverticula, through one of which perforation eventually occurred. In one case there were two separate and apparently entirely independent though similar growths in the appendix, the one at the tip, the other at the base. These three cases were typical of appendix carcinoma in: (1) the early age incidence (15, 22 and 17 years, respectively); (2) the spheroidal-cell type of growth; (3) the absence of metastatic glandular involvement.

Pyloric Stenosis; Rammstedt Operation.—Of the ten cases on which Ramsay's paper is based, five ended fatally, but none were fatal from the shock which was a frequent termination after the older operations.

Goiter.—Berry's analysis of 500 cases is presented in such detail as to prohibit abstracting, hence the original article must be consulted.

Closure of Septic Bone Cavities with Muscle Flaps.—Wood's paper is based on a series of twenty-four consecutive cases. The pedicle muscle flap is a living plug with its own blood, and often its own nerve supply. It is consequently able to resist low degrees of infection. This is a great advantage over other methods proposed. The use of muscle as a hemostat is well known in brain surgery. Its similar action in bone cavities is of great importance. It prevents the accumulation of bloot clot, which would act as a pabulum for organisms in the wound.

Persistent Vitelline Artery.—In the case cited by Fraser and McCartney there was a small tumor at the umbilicus no greater than a pea with a persistent irritating discharge from its surface which tended to produce excoriation of the surrounding skin. The tumor seemed to consist of granulation tissue, and was growing by a narrow pedicle from the deeper portion of the umbilicus. Its surface gave rise to a small amount of secretion. There was no sign of any cavity in its interior, and it did not appear to connect with any deeper abdominal structure. The condition was regarded as that of a simple umbilical granulation. The tumor was lifted from the umbilicus and the pedicle was divided with the cautery. The child, aged 4 months, remained well for twenty-four hours, but after this period it began to show certain alarming features. The pulse increased in rapidity and the appearance was one of considerable shock. The child succumbed within forty-eight hours of the original operation. On opening the abdomen, the peritoneal cavity was seen to contain a large quantity of blood, of which about 4 ounces were in the pouch of Douglas. There was no evidence of peritonitis or of perforation. A thin fibrous cord, 1½ inches long, stretched from the umbilicus a little to the left of the middle line, to the mesentery of the ileum, about 18 inches from the ileocecal valve. The actual attachment of this cord to the mesentery, which appeared to be held an inch from the gut wall, was hidden by a hematoma in the mesentery. This hematma was about an inch in diameter, and at the apex was a small hole from which the blood had escaped into the peritoneal cavity. The other organs of the body showed nothing worthy of note. On dissecting the cord through the hematoma, it was found to be attached to a branch of the superior mesenteric artery. This shows that the cord was the persistent left vitelline artery. Its lumen was completely obliterated, even at the junction with the superior mesenteric branch. Opposite the attachment of the vitelline artery there arose from the superior mesenteric artery a small branch which had been torn across, and this was responsible for the hemorrhage. During the operation, on lifting the tumor from the umbilicus traction was exerted on the vitelline artery and, through it, on the main vessel, this causing the rupture of the small branch. As

a result, a hematoma was formed in the mesentery, and after this had attained a certain size, the stretched peritoneum over it ruptured, and blood escaped into the peritoneal cavity.

British Medical Journal, London

May 21, 1921, **1**, No. 3151

*Acute Infective Arthritis. F. J. Steward.—p. 727.
*Acute Intestinal Obstruction. E. R. Flint.—p. 729.
Abdominal Pain: Its Mechanism and Clinical Significance. A. E. Maylard.—p. 731.
Physiologic Cost of Muscular Work. L. Hill and J. A. C. Campbell.—p. 733.
*Comparative Systolic Blood Pressure Readings in Arm and Leg in Aortic Incompetence. O. K. Williamson.—p. 734.
Elementary Psychology in General Hospital Teaching. W. Calwell.—p. 736.
Obstruction by Band in Large Scrotal Hernia. P. Turner.—p. 738.
Radical Cure of Varicocele. J. O'Conor.—p. 738.
Ligation of Left Subclavian Artery. W. Gemmill.—p. 739
Dermatitis Caused by Bitter Orange F. A. Murray.—p. 739.

Acute Infective Arthritis.—Steward cites cases which illustrate various modes of joint infection: from the exterior; by spread from neighboring parts; and general blood infection.

Acute Intestinal Obstruction.—A series of 282 cases is analyzed by Flint. The mortality was 15.6 per cent., including strangulated external hernia and acute obstruction from carcinoma. Leaving these out of account, there were seventy cases, with a death rate of 28.5 per cent. The mortality of all cases not requiring resection in this series was 9.3 per cent. —that is, 236 cases, with twenty-two deaths. The mortality of all resections was 45.4 per cent.

Arm and Leg Blood Pressure in Aortic Incompetence.—Williamson records his observation of twenty-four cases of undoubted and, indeed, well marked aortic incompetence. In fourteen of these a difference obtained in the arm and leg readings. In the ten remaining cases there was either a higher arm than leg reading or there was no difference in favor of the leg reading. Ten out of the fourteen patients showing the difference had thick arteries. In the fourteen adult cases eleven showed the difference, whereas it was observed only in three of the eight children, in none of whom were any arterial changes found. These two points suggest very strongly the arterial origin of the phenomenon. In regard to the relationship of the degree of pulse pressure to the arm-leg difference, there was no correspondence between the two.

Journal of Laryngology and Otology, Edinburgh

May, 1921, **36**, No. 5

One Hundred Eighty-Eight Cases of Acute Otitis Media and Mastoiditis in Which Schwartze Operation was Performed. G. A. A. Boyd.—p. 217.
Diagnosis of Disease of Otolith Apparatus. R. Barany.—p. 229.
Rôle of Tonsils in Certain Cases of Diphtheria "Carriers." H. Tilley.—p. 235.
Two Cases of Traumatic Adhesion of Soft Palate to Posterior Pharyngeal Wall Following Removal of Tonsils and Adenoids; Re-establishment of Nasal Respiration by Operation. A. L. Turner.—p. 237.

Journal of Pathology and Bacteriology, Edinburgh and London

April, 1921, **24**, No. 2

*Neural Origin of Certain Sarcomas of Brain. J. R. Perdrau.—p. 129.
Fibroma in a Honey-Bee. P. B. White—p 138.
Method of Mounting Flat Pathologic and Other Specimens in Gelatin. T. H. G. Shore.—p. 140.
Diagnosis of Syphilis in Malarial Subjects by Wassermann Reaction. J. P. Johnson.—p. 145.
Preparation of Diphtheria Toxin. K. G. Dernby and H. David.—p. 150.
*Cultivation of Gonococcus. C. E. Jenkins.—p. 160.
*Decalcifying and Dehydrating Fixative. C. E. Jenkins.—p. 166.
*Mode of Infection of Schistosomum Japonicum and Principal Route of Its Journey from Skin to Portal Vein in Host. Y. Miyagawa and S. Takemoto.—p. 168.
Experimental Study of Avian Beriberi. G. M. Findlay.—p. 175.
Production of Coliform Infection in Urinary Tract of Rabbits. E. H. Lepper.—p. 192.
Supposed Importance of Vitamins in Promoting Bacterial Growth. J. W. M'Leod and G. A. Wyon.—p. 205.
Study of So-Called Parameningococci. L. Cronstedt.—p. 211.
Studies on Heterophile Antigen and Antibody. T. Taniguchi.—p. 217.

Neural Origin of Brain Sarcoma.—Two cases of "sarcoma" of the brain are recorded by Perdrau which show characters pointing to a neural origin and are, therefore, true neuroblastomas. In the first case the bipolar neuroblast is the prototype of the tumor, and in the second case the unipolar (or pear-shaped) neuroblast, the latter being the more malignant one of the two.

Cultivation of Gonococcus.—Ten per cent. whole blood agar has been found by Jenkins to be a satisfactory medium for culturing the gonococcus. The reaction of the agar from which it is made should be + 4 or + 5. At optimum conditions of temperature and moisture, and when grown on a suitable medium, all strains develop equally; the variations in the amount of growth and in the appearance of the different strains only become manifest when the conditions are made relatively unfavorable.

Decalcifying Fixative.—The formula which Jenkins designed to avoid the objections to picric or nitric acid is: hydrochloric acid, 4; glacial acetic acid, 3; chloroform, 10; water, 10; absolute alcohol, 73. The tissue should be immersed in 100 times its volume of solution. Tissues placed in this fluid do not show the slightest discoloration, except some bleaching which does not affect the staining. Decalcification is rapid; a piece of rib 2 inches long was quite soft in forty-eight hours. After the completion of decalcification washing is not necessary; the tissue may be passed straight into absolute alcohol to complete the dehydration and to remove the acid. Tissues treated with the fluid take Ehrlich's hematoxylin. Differentiation is normal.

Mode of Infection of Schistosomum Japonicum.—Miyagawa and Takemoto were able to determine that the principal route of invasion of *Schistosomum japonicum* from the skin to the portal veins in the host, was as follows: The young worms penetrate actively into the skin, principally into the lymphatic spaces, then for the most part they invade the blood capillaries or the small peripheral veins, later gathering in the right side of the heart. Some of those in the skin tissue pass by the lymphatic vessels to the lymphatic glands, in which some are arrested and killed; others, however, being able to pass through into the emergent veins finally reach the right side of the heart. The worms in the right side of the heart now pass to the lungs. They are arrested a short time in the lung tissue, owing to the disproportion in the size of the worms and alveolar capillaries. Finally, they return to the left side of the heart and are carried through the aorta to the wall of the gastro-intestinal canal, after passing through which they reach their permanent residence (the portal branches in the liver) by the mesenteric veins. Some of the worms in the systemic circulation can directly reach the liver by the hepatic artery.

Kitasato Archives of Experimental Medicine, Tokyo

March 10, 1921, **4**, No. 2

*Antirabic Inoculation of Dogs and Results of Its Practical Application. S. Umeno, Vet and Y Doi.—p. 89.
*Leukocytes in Influenza: Etiologic Significance. S. Yabe.—p. 109.
*Cultivation of Bacillus Leprae. K. Kohda.—p. 141.
Life Cycle of Fasciolopsis Buski, Lankester. K. Nakagawa.—p. 159.

Antirabic Inoculation of Dogs.—The importance of the vaccination of dogs to prevent spread of rabies among dogs is emphasized by Umeno as being most effective. He prepared an antirabic vaccine from the brain and the spinal cord of a rabbit, which had been inoculated with the fixed virus. The brain and spinal cord, were pounded in a mortar. One part of this pounded material was mixed with 4 or 5 parts of phenolized glycerin water. In order to diminish its virulence, this mixture was stored for a certain period of time either at room temperature or in the ice chamber. The dose was 6 c.c. of vaccin per 15 kg. body weight of the dogs. This quantity of vaccine was injected in two different places. Among 31,307 vaccinated dogs occurred only one case of vaccination loss and one in which the vaccination was not to be regarded effective enough. There appeared quite a number of rabid dogs among the nonvaccinated dogs.

Leukocytes in Influenza.—Yabe states that in influenza leukocytosis must occur in the initial stage of the infection, i. e., during the incubation period or on the first or the second day of the illness, and then a decrease must occur. In the convalescent serum of influenza, a substance has been found which interrupts the decrease in the leukocyte count and

which may be considered to be a kin of antitoxic immune substance. In the normal blood such a substance has never been found. The immune serum, which was obtained by immunizing animals with influenza bacilli, contains the same antitoxic substance as the convalescent serum. But the serum immunized with any other species of bacteria has no antitoxic power against the toxin of influenza. Yabe concludes that the causative agent of uncomplicated influenza must be *B. influenzae*.

Cultivation of Lepra Bacillus.—All of Kohda's work was done with Kedrowski's lepra bacillus, an acid and alcohol fast bacillus, which develops on culture mediums similar to the avian tubercle bacillus. Against some experimental animals it showed a weak pathogenicity. It was proved to have a positive immunologic reaction against leprous serum, although it is not specific. An especially striking feature was that the serum of lepra tuberosa fixed complement stronger than that of lepra nervorum. Kohda believes that all the phenomena observed must be considered as a group reaction of all the acid fast bacilli toward the leprous serum.

Medical Journal of Australia, Sidney

April 2, 1921, **1**, No. 14

*Papilloma of Urinary Bladder. S. Harry Harris.—p. 265.
Volvulus in Infant Four Days Old. F. C. Burke-Gaffney.—p. 269.

April 23, 1921, **1**, No. 17

Pathology of Functional Nervous Disorders. H. K. Fry.—p. 325.
Intestinal Parasites in North Queensland. S. M. Lambert.—p. 332.

April 30, 1921, **1**, No. 18

I. Commonwealth Government Service.—p. 347.
II. Public Health Service of New South Wales.—p. 348.
III. Evolution of Public Health Administration in Victoria.—p. 350.
IV. Development of Public Health Department of Queensland.—p. 352.
V. Public Health in South Australia.—p. 354.
VI. Health Administration in Tasmania.—p. 357.
I. School Medical Service of New South Wales.—p. 359.
II. School Medical Inspection in Victoria.—p. 360.
III. Medical Inspection of School Children in Western Australia.—p. 364.
IV. Medical Inspection in State Schools of Tasmania.—p. 366.

Papilloma of Bladder.—Of thirty-eight patients, thirty-three were treated by the high frequency current through the cystoscope without mortality and five by suprapubic cystotomy with complete destruction of the tumors and entire mucous membrane of the bladder by the Paquelin (benzin) cautery. Of the latter, one died. The remaining four patients so treated were well and free of recurrence at periods after operation ranging from one and a half to four and a half years. Three were suffering from very extensive multiple recurrences after previous suprapubic operation elsewhere; and the condition had been pronounced inoperable. Of the thirty-three patients treated by the high frequency current, eight had more or less extensive—and in four cases multiple—recurrences after operation elsewhere by the suprapubic route. Of these, six are known to be well and free of recurrence at periods ranging from twenty months to four and a half years. The other two were well at the time of the last report, six months after the disappearance of the tumors.

South African Medical Record, Cape Town

April 23, 1921, **19**, No. 8

Puberty Gland (Interstitial Gland) and Some of Its Functions. H. V. Exner.—p. 142.
Intra-Urethral Chancres. B. Bernstein.—p. 151.
Snake Venom for Epilepsy. F. W. Fitzsimons.—p. 153.

Annales de Médecine, Paris

March, 1921, **9**, No. 3

*Gout and Cholesterin. A. Chauffard and J. Troisier.—p. 149.
*Pneumonia in the Aged. G. Roussy and R. Leroux.—p. 161.
*D'Herelle's Bacteriophagum. P. Ameuille.—p. 197.
Place of the Sympathetic Nervous System in Human Pathology. A. C. Guillaume.—p. 208.

Gout and Cholesterin.—Chauffard and Troisier relate that with Grigaut's modification of Folin's technic they found the uric acid content of the blood in gout was regularly 0.1 per thousand, instead of the normal 0.04, and the cholesterin content was likewise abnormally high. In nine of thirteen cases of gout, the cholesterin ranged from 1.50 to 2.95 per thousand. This excess of cholesterin is deposited at various points, the process being the same as with urates, only in lesser degree. They describe a case in detail showing the superposed cholesterinemia and uricacidemia plus intercurrent fatal tuberculous disease of the kidneys.

Pneumonia in the Aged.—Roussy and Leroux give a profusely illustrated description of the pathologic anatomy of bronchopneumonia in twenty-one persons from 64 to 81 years of age. The pneumonia is due to some casual infection of a local point of lesser resistance from thrombosis entailed by the chronic arteritis or sclerosis of the lung.

D'Herelle's Bacteriophagum.—Ameuille's survey of the literature on this subject shows conflicting views, but there can be no doubt of the peculiar biologic reaction involved.

Bulletin de l'Académie de Médecine, Paris

May 3, 1921, **85**, No. 18

*Aneurysm of the Aorta. L. Rénon, R. Mignot and Blamoutier.—p. 528.
*Syphilitic Aortitis. C. Fiessinger.—p. 537.
*Gastrectomy for Hard Ulcer. V. Pauchet.—p. 539.
*Treatment of Bacilli Carriers. R. Dujarric de la Rivière.—p. 542.

Treatment of Aneurysm of the Aorta.—Rénon relates that Tuffier operated on a spindle-shaped aneurysm of the ascending portion of the aorta in a woman of 62 with positive Wassermann reaction but no signs of syphilis. A strip of fibrous tissue, from the woman's fascia lata, was wrapped around the aorta to reenforce its wall. The sternum was cut across at the second interspace, which allowed ample access to the aneurysm; it covered a stretch of about 5 cm. The strip from the fascia lata was passed twice around the vessel and fastened to it with silk. The strip was about two fingerbreadths wide, and it was drawn tight to reduce the diameter of the vessel a little. The sternum was sutured with silver wire. The dyspnea and pains were relieved at once but there was an intrathoracic sensation as of a cramp for three months, and at times later. The aneurysm in the course of six and a half years had about regained its former size when the woman succumbed to intercurrent disease. In the discussion that followed, Delorme suggested that the immediate and striking relief may have been due to a regional sympathectomy realized by freeing the aorta to allow the strip of fascia to be passed around it. This recalls Jonnesco's case of angina pectoris with dilated aorta cured by severing the trunk of the sympathetic. We have thus three methods of treatment at our disposal: reenforcement of the wall by wrapping a strip of fibrous tissue around it; regional sympathectomy, and remote trunk sympathectomy. The first technic is applicable only to a limited region, but the third might act on any portion of the aorta.

Posttraumatic Syphilitic Aortitis.—Fiessinger warns of the necessity for a course of specific treatment before any operation on a syphilitic, relating several instances of acute aortitis developing at once after an operation, the myocardium giving way, with fatal outcome. In one of his cases the operation had been nothing more serious than iridectomy. An interval of three months elapsed in one of the cases, death following in two months.

Gastrectomy for Hard Ulcer.—In one of Pauchet's five cases of total gastrectomy, the woman of 53 seems to be entirely normal at present, over two years since the operation.

Hot Air in Treatment of Bacilli Carriers.—De la Rivière has found that a jet of superheated air playing on the tissues of the throat for a total of ten or fifteen minutes, seems to kill off the diphtheria bacilli in chronic carriers. This result was obtained in from three to five sittings in his fifty cases; only one required fifteen.

Bulletin Médical, Paris

May 7, 1921, **35**, No. 19

*Dyspepsia. F. Ramond and C. Jacquelin.—p. 377.
Hallucinations with Secondary Psychoses. R. Benon.—p. 378.

Dyspepsia.—Ramond and Jacquelin describe what they call the "early gastric syndrome." This condition is as well defined as the pyloric syndrome, and requires prompt treatment as otherwise it tends to anachlorhydria. The gastritis is in the upper third of the stomach, and the meals should be arranged to spare this portion of the stomach; no fluids with meals, and the total amount of food not reaching above half the height of the cavity.

Bulletins de la Société Médicale des Hôpitaux, Paris

April 29, 1921, **45**, No. 14

*Treatment of Tachycardia. C. Lian and H. Welti.—p. 559.
Toxicity of Certain Samples of Neo-Arsphenamin. Eschbach.—p. 567.
*Intra-Articular Serotherapy. A. Netter.—p. 573.
Toxin Versus Endotoxin of Diphtheria Bacilli. Babonneix.—p. 575.
*Urticaria and Mastication. P. Pagniez and L. de Gennes.—p. 577.
Nephritis in Malignant Endocarditis. Caussade and Foucart.—p. 581.
*Wassermann Test in Epidemic Encephalitis. E. Duhot and P. Crampon.—p. 587.
*Protein Shock Therapy. E. Lévy-Solal.—p. 591.

Physostigmin in Treatment of Tachycardia. — Lian and Welti call attention to this drug as another weapon for combating tachycardia. In the eleven adults described, marked relief was obtained, but it was mainly subjective. The relief from the palpitations was as marked in the cases with exophthalmic goiter as with mere hypersympathicotonia and in cardiovascular disease without thyroid symptoms. Intense vasomotor disturbances in one case improved, but in another no influence on "hot flashes" was apparent. There were no by-effects except transient malaise in one woman who had taken twice the prescribed dose at one time. They gave 1 mg. of the eserin sulphate before one, two or three meals during the day, keeping this up for from four to seven days or even for two or three weeks. Hypertonia of the sympathetic nervous system seems to be the indication for it.

Intra-Articular Serotherapy.—Netter extols the promptly curative action of intra-articular injection of antigonococcus serum in suppurating gonococcus arthritis. When the specific antiserum is not available, a rapid and definite cure may be obtained with nonspecific antiserum. This was his experience in a case of pneumococcus arthritis, in two paratyphoid cases, in a case of inherited syphilis, and in one of frambesia; in ten other cases it proved impossible to determine the exact bacteria responsible, but antimeningococcus serum or other antiserum proved effectual, or even normal serum.

Urticaria from Rapid Eating.—The young man bolted his food, taking only fifteen minutes for dinner. There were no signs of dyspepsia, but recurring urticaria was most annoying. When ordered to eat slowly, at once the urticaria subsided, but it returned on resumption of his bad eating habits. Repeated tests confirmed that the urticaria was brought on by inadequate mastication, and that it could be warded off effectually by careful chewing, apparently regardless of the nature of the food. Bolting the food induced a condition in which the ingestion of food a few hours later upset the balance; an anaphylactic shock followed, manifest in the form of urticaria, migraine or asthma, etc.

Wassermann Reaction in Epidemic Encephalitis. — Duhot and Crampon comment on the positive response to the Wassermann test in certain cases of epidemic encephalitis. They found it negative in twenty-six cases but in six others a positive reaction was obtained during the course of the disease; it returned to negative during convalescence. The positive response was obtained only in the cerebrospinal fluid, not in the blood. One of the six patients was a child of 10, and the 3 plus reaction at the fourth month was followed by a negative response during convalescence the next month. There was nothing to indicate syphilis in any of these patients.

Protein Therapy in Puerperal Septicemia. — Lévy-Solal reports a case of puerperal streptococcus septicemia rebellious to all measures until as a last resort an intravenous injection was given of 10 c.c. of a 5 per cent. solution of peptone (Witte). Headache and backache followed and the temperature ran up, but there was no sign of collapse, and by the twelfth hour the temperature and pulse had dropped to normal. The third day the temperature ran up again to 104 but was controlled anew by a second injection of the peptone. It induced a very slight reaction and convalescence became definitely installed at once. In the discussion that followed, most of the speakers emphasized that shock treatment should never be applied except after failure of the ordinary measures. Milian reported a case in which a subcutaneous injection of 0.5 gm. of peptone seemed to rouse an old latent tuberculous focus, tuberculous pleurisy following. Fiessinger ascribed the action to the release of ferments in the leukocytes, saying that the effect will be proportional to the strength of these ferments, and that the leukocytes are more resistant in certain phases of the disease than at others. A number reported on shock treatment of typhoid. Abrami warned in particular against any attempt at shock therapy for persons inclined to urticaria, asthma, Quincke's disease or any pathologic condition of the colloidoclasis type. In two such cases recently, intravenous injection of 20 c.c. of a 9 per thousand solution of sodium chlorid induced a most violent shock reaction. The most scrupulous skeptophylaxis is not certain to ward off a violent shock, and even an intense shock does not always display a curative action.

Lyon Chirurgical, Lyons

March-April, 1921, **18**, No. 2

*Treatment of Fractures of Long Bones. V. Putti.—p. 133.
*Surgical Affections of Lower Bladder. Rochet.—p. 143. Cont'd.
*Traumatic Lesions of the Wrist. E. Destot.—p. 164.
*Tuberculous Perinephritis after Nephrectomy. L. Thévenot.—p. 179.
Anatomy of Mammary Vessels. P. Bonnet and L. Barbier.—p. 188.
*Rupture of Vessels with Fracture of Sternum. Idem.—p. 207.
Capillaries in Raynaud's Disease. Leriche and Policard.—p. 214.

Circular Constriction in Treatment of Fractures of Long Bones.—Putti gives an illustrated description of his method of belting the fractured bone which he has been using for eight years in a total of over 100 cases. It was introduced in this country a year or two later by Parham. Putti uses two of the metal "ribbons," each usually 3 mm. wide by 250 mm. long, applying them with a small instrument which draws them tight and buckles back the end. With a transverse fracture he applies the belts over a narrow, rubber-covered steel plate, with two grooves for the two metal belts. In the majority of his cases the metal caused no disturbance, becoming embedded in the normal callus. Only rarely has he been obliged to remove this buried prosthesis later, on account of subjective disturbance. The metal strips can be applied inside or outside of the periosteum. In infected cases, this *cerclage au ruban*, applied temporarily, often renders good service.

Surgical Affections of the Lower Bladder. — In this first instalment, Rochet discusses the diagnosis and treatment of inflammatory lesions of the lower bladder, perivesical abscess, diverticulum, and perivesical hydatid cyst. In a case described, a large infected diverticulum with fetid contents was cured by working loose and resecting, through the opened bladder, the mucosa lining of the diverticulum. The opening of the pocket was enlarged and the raw surface was left to heal and obliterate the cavity spontaneously. The patient's condition had been too precarious for a more radical operation, but this resulted in a complete cure in three months. His disturbances had long been erroneously attributed to the prostate. Rochet adds that a low perivesical hydatid cyst can be treated by a perineal incision alone, to insure drainage, leaving the sac otherwise unmolested.

Traumatic Lesions of the Wrist.—This is the introduction to a work intended to be a sequel to the monograph published by Destot in 1905 which was the outcome of nine years of special study of injuries of the wrist. His death prevented the completion of the work.

Tuberculous Perinephritis After Nephrectomy. — Thévenot analyzes ten cases in which the bed of the kidney became inoculated with tuberculosis at the removal of the tuberculous kidney. Although the infection seems grave at first, yet under persevering treatment the large defect, after suppurating for a time, may heal over, or at least leave merely a small fistula. It is a very tedious complication, but only one of the cases mentioned proved fatal, one man of 45 succumbing to tuberculous meningitis in less than a month after the nephrectomy. The bed may be infected by pus during the operation, or it may become infected from the ureter as the catgut ligature is absorbed and the contents of the ureter escape. When the symptoms develop first after the tenth day, this latter mechanism seems most plausible. In one case the operative wound opened, about the third week and the gaping mouth of the ureter was seen in the center of the inflammatory focus. It healed completely in less than a month. All the fat tissue encircling the kidney should be removed with it.

Fracture of the Sternum.—Bonnet and Barbier report two cases showing the danger of secondary hemorrhage, with fracture of the sternum, from rupture of the internal mammary vessels which had apparently escaped the traumatism. Traction from adhesion to the bone is evidently the cause of the tardy rupture.

Nourrisson, Paris

May, 1921, **9**, No. 3

*Morbid Conditions with Athrepsia. A. B. Marfan.—p. 129.
*Enlargement of Liver in Beriberi in Infants. T. Suzuki.—p. 142.
Welfare Work for Illegitimate Children. H. Mensi.—p. 161.
Pneumococcus Meningitis. G. Blechmann.—p. 179.

Morbid Conditions Associated with Athrepsia.—In an article summarized recently, on page 1372, Marfan cleared away all that has been obscuring the clinical picture of denutrition in infants. He here reviews the concomitant destructive lesions from trauma and secondary infections or irritations affecting the tissues that have thus had their vitality weakened. Diarrhea with hypothrepsia or athrepsia is the most common form of the disturbances resulting from the child's not getting breast milk. He groups them under the term athelosis, from *thele*, "breast." The diarrhea may subside and the child be apparently digesting cow's milk, but the state of denutrition may continue to progress to fatal athrepsia if the child is less than 4 months old. In other cases the diarrhea comes and goes, but the denutrition continues, although less regularly. When the diarrhea persists, the denutrition generally progresses without let-up. The destructive lesions may develop on skin, bowel, palate or on the lungs, from local defective circulation. Rachitis, on the other hand, is rare with athrepsia.

The Liver in Beriberi.—Suzuki has found beriberi in the infants of healthy mothers and vice versa, in Japan. The infant may present all the symptoms and signs of beriberi and yet be free from it, but a characteristic feature in infants is enlargement of the liver. Miake found it pronounced in 19 of 125 cases, but Suzuki found the liver extremely large in all the infants with the cardiac type of beriberi. The paralytic form of beriberi does not seem to be accompanied by enlargement of the liver. It warns of impending heart disturbances, and is thus an unfavorable omen.

Paris Médical

May 7, 1921, **11**, No. 19

*Diseases of Deranged Metabolism in 1921. F. Rathery and R. Glénard.—p. 353.
*Dietetic Treatment of Diabetes. M. Labbé.—p. 364.
Experimental Research on Scurvy. Mouriquand and Michel.—p. 366.
The Ultraphotometer. A. Baudouin and H. Bénard.—p. 373.
Deficiency Disease. P. Le Noir and C. Richet, Jr.—p. 376.
Alveolar Tension as Test for Acidosis. Rathery and Bordet.—p. 380.

Diabetes and Gout in 1921.—Rathery and Glénard review the extensive literature of the last two years on diabetes and gout, analyzing a number of important contributions. Most of them have been published or summarized in THE JOURNAL. They say that the intensive study of these two diseases, especially the extensive work by the Americans, seems to have only confirmed the general principles formulated long ago by the French physiologists. They are inclined to think that the endeavor to render the diabetic always aglycosuric is too sweeping. In tenaciously striving to banish the sugar from the urine, sometimes grave by-effects may be observed. Joslin warns that sodium bicarbonate may do harm in diabetic coma. He does not approve of large doses or giving it more than a short time. In respect to gout, Rathery and Glénard extol Grigaut's modification of the Folin and Denis' phosphotungstic colorimetric test for uric acid in the blood. He applies the reaction to the filtrate of the blood, without isolating the uric acid first. The recent finding of cholesterin along with urates in the gouty tophus may explain some of the symptoms of gout. It points to malfunction of the liver.

Carbohydrates in Diabetes.—Labbé concludes from his extensive clinical and experimental research that the pathologic anatomy and the functioning in different cases of diabetes vary so widely that it is impossible to base on them any histophysiologic theory of diabetes, or foresee the action of any special diet.

Presse Médicale, Paris

April 30, 1921, **29**, No. 35

The Spirit of French Medicine. L. Rénon.—p. 341.
Autoserotherapy in Skin Diseases. L. Cheinisse.—p. 345.

May 4, 1921, **29**, No. 36

*Absence of Neck. L. Dubreuil-Chambardel.—p. 353.
*Continent Artificial Anus. J. François.—p. 355.
Improved Clinical Polygraph. R. Lutembacher.—p. 356.

Absence of Neck.—A new case is added to the eleven on record in which the head is implanted directly on the trunk, without any neck. This anomaly does not seem to interfere with reaching an advanced age.

Continent Artificial Anus.—François has been inspired by the skin-lined tunnels of kinematized amputation stumps to apply a similar technic to insure continence of an artificial anus. A skin-lined tunnel is made on each side of the artificial anus, and a steel bar, 12 cm. long and covered with rubber tubing, is slipped into each tunnel. The two parallel bars slide on an upright at one end. The other end of each bar is fitted with a ball tip, and the two bars are drawn together by a rubber band. A contrivance of this kind has been worn for a month by two patients with cancer of the rectum, and is proving highly satisfactory. The article is illustrated.

May 7, 1921, **29**, No. 37

Comparison of the Blood Pressure in Arm and Leg with Aortic Insufficiency. C. Aubertin and E. Woillez.—p. 361.
*Entero-Antigens in Treatment of Dysentery. J. Danysz.—p. 362.
*Gastric and Duodenal Ulcer. G. A. R. Loewy.—p. 363.
The Colloids in Therapeutics. W. Kopaczewski.—p. 365.

Nonspecific Entero-Antigens.—Danysz relates that the mortality from dysentery in Poland has been averaging 26 per cent., according to a recent letter from Poznan, but in forty cases treated with entero-antigens, only one patient died and in this case the cachexia was intense, at the sixteenth day, when this treatment was begun. At first Danysz prepared the entero-antigen from the patients' own stools, but as the bacteriologic findings seemed to be of such a uniform type on the whole, he found a stock culture equally effectual. As now made it contains the enterococcus, diplococcus, and proteus, all heated to 80 or 100 C. He says the most frequent reaction and the one most easily inspected is the stimulation of the secretion of bile. After a single subcutaneous injection or the ingestion of 1 ampule, an abundant afflux of bile into the digestive tract is apparent. It is impossible to conceive that the antigen selects one organ to act on; it is more reasonable to assume that the action is on the nerve centers, these in turn displaying the elective action which we have to assume from the benefit that has followed its administration in certain rebellious skin diseases, asthma, etc.

Medical Treatment of Gastric and Duodenal Ulcer.—Loewy describes in detail Sippy's method as he studied it for several days at the Presbyterian Hospital in Chicago. He tells his confrères that this method is logical and has demonstrated its usefulness, and should be given a thorough trial, during the early stage of a gastric or duodenal ulcer, and always after an operation for ulcer. (Sippy described his medical cure by efficient removal of gastric juice corrosion in THE JOURNAL, May 15, 1915, p. 1625.)

May 11, 1921, **29**, No. 38

*Dyspnea in Cardiorenal Disease. F. Bezançon, S. I. De Jong and A. Jacquelin.—p. 373.
*Typhoid Lung Lesions. A. Lemierre and P. N. Deschamps.—p. 375.

Dyspnea in Cardiorenal Disease.—Bezançon and his co-workers state that a small focus of congestion is usually responsible for the asthmatiform dyspnea coming on suddenly in disease of the heart and kidneys. It is encountered with high blood pressure or retention of chlorids or both, and there is a history of bronchial or pulmonary affections. Treatment as for asthma is usually ineffectual, but venesection may have a marvelous action, and a salt-poor diet is an important adjuvant. Test ingestion of chlorids may bring on an attack, thus confirming the necessity for restriction of salt.

Typhoid Pseudotuberculous Pulmonary Symptoms.—Lemierre and Deschamps warn that in the course of typhoid or paratyphoid a cavity may develop in the lung exclusively of typhoid or paratyphoid origin. Differentiation is possible only by the absence of tubercle bacilli from the sputum. It is rarely possible to cultivate typhoid or paratyphoid bacilli, but Widal accomplished it in one case by puncturing the lung and inoculating the culture medium with the few drops of bloody fluid thus obtained. The addition of bile to the culture medium promotes the proliferation of the bacteria.

L. Bernard found tuberculous lesions in only 2 per cent. of the typhoid cadavers during the war, although the clinical diagnosis had often been tuberculosis.

Progrès Médical, Paris

April 9, 1921, **36**, No. 15

*Gastroradiculitis from Pott's Disease. F. Ramond and C. Jacquelin.—p. 155.
Sulfarsenol in Serologic Tests in Syphilis. L. Duroeux.—p. 155.
Criminal Acts Against Decency. Balthazard.—p. 159.
*Diffuse Phlebitis; Two Cases. Moreau.—p. 161.
Hexamethylenamin by the Vein. H. Paillard.—p. 162.

April 16, 1921, **36**, No. 16

Purpura in Three Pregnancies. H. Vignes and Stiassnie.—p. 167.
Septicemia of Dental Origin. J. Tellier.—p. 168.
Traumatism of Spinal Cord. Delbet.—p. 169.

Gastroradiculitis from Pott's Disease.—Ramond and Jacquelin refer to recent works by Bouchut showing the frequency of inflammation of nerve roots in cases of alleged painful dyspepsia. The radiculitis is often of syphilitic origin, and subsides under proper treatment without any measures directed to the stomach. They report here a case of tuberculous vertebral caries which was responsible for the pains in the stomach. They have also encountered a case of chronic gonococcus disease of the vertebrae entailing intense pain in the stomach. The gastric symptoms from this radiculitis may suggest gastritis, ulcer or spasm, and their rhythmical appearance is often misleading. The pains may spread from the epigastrium to the back, the interspaces and the flanks. Sometimes the remote pains are hard to reconcile with a stomach lesion. In the tuberculous case the oppression in the stomach followed at once after the meal, and in fifteen minutes the pain became intense, with cramps, and spread to the back, to the point of the tuberculous lesion. Then came regurgitation, and three or four hours after the meal there was a burning pain in the stomach for a few minutes. Then the cycle closed and there was peace until the next meal except for general asthenia. These symptoms apparently indicate total gastritis, but the stomach is normal except for the oversensibility from irritation of the splanchnic nerves. Milk is liable to induce a burning pain, and the meal exaggerates the pain as a rule. Sodium bicarbonate gives no relief, and may intensify the pain. Opium and cocain usually help. By tracing the gastric disturbances to their source causal treatment may be instituted.

Diffuse Phlebitis.—In Moreau's two cases, the suppurative phlebitis involved the veins in the leg, the iliac veins and the inferior vena cava, confirmed by necropsy.

Schweizerische medizinische Wochenschrift, Basel

May 5, 1921, **51**, No. 18

*Micromethod for Sugar in Blood. S. H. Reist.—p. 419.
Partial Antigens in Therapeutics. M. Landolt.—p. 423.
*Enterostomy. F. Brunner.—p. 426.
Apparatus for Automatic Percussion. C. Jörgensen.—p. 428.

Test for Sugar Content of the Blood.—Reist has applied the Pavy urine technic as a micromethod, and describes it as reliable enough and so simple as to be within the reach of all, not requiring any complicated apparatus or calculations. The 0.1 c.c. of blood is blown into a test tube containing 3 c.c. of alcohol, the whole shaken and set aside for an hour, when the albumin will all be precipitated. The fluid is filtered, and the alcohol evaporated in the water bath. This leaves the sugar deposited on the wall of the test tube, and it is dissolved by adding 0.3 c.c. of Pavy's solution I and the same amount of Pavy's solution II, and adding 1.8 c.c. of distilled water, and mixing by swinging the tube until the sugar is all dissolved and the fluid is blue. The test tube is then placed on an asbestos grate, touching the grate, and is gently heated. The reaction is the decoloration of the fluid. The Pavy solution I is made with 4.158 gm. of copper sulphate, and distilled water to 500 c.c. The formula of solution II is 20.4 gm. Rochelle salt; 20.4 gm. potassium hydroxid; 300 gm. ammonia, and distilled water to 500 c.c. As the reaction requires a certain amount of sugar, he adds a given amount to the test tube and subtracts this in titration. The physiologic range of glucose in human blood seems to be from 0.06 to 0.11 according to Naunyn, Bang, and six others cited. Reist found up to 0.292 in seventeen diabetics, repeatedly tested. In nineteen nondiabetics the range was from 0.028 to 0.128.

Enterostomy.—Brunner points to his ten cured cases out of a total of thirty-four in which enterostomy was applied as a last resort. It has little if any chance of success in generalized peritonitis. In three of his cases he made an opening into the intestine at several different points before the desired result was obtained The fistula healed spontaneously in all the cases in which the intestine had been sutured water-tight to the peritoneum, but the fistula persisted and required operative measures when the intestine had been sutured to the skin. To close the fistula, he resects and sutures the defect in the side of the bowel. This does not narrow the lumen; on the contrary it bulges, as he found at necropsy four years later in one case.

Policlinico, Rome

May 2, 1921, **28**, No. 18

Reciprocal Innervation of Antagonist Muscles. Dorello.—p. 611.
Sinusitis from Measles. R. Monteleone.—p. 616.
Suture of Vessels in Wounds of Dural Sinuses. C. Mantelli.—p. 618.
*Source of Error in Tests for Acetone. E. Pittarelli.—p. 621.

Source of Error in Tests for Acetone.—Pittarelli declares that the source of error he has discovered in tests for acetone invalidates most of the analyses that have been published to date with distilling technic. This is easy, simple, rapid and absolutely reliable provided no rubber is used about the apparatus. He has found that rubber under the influence of steam or boiling water yields a volatile substance which responds to all the tests which have been found to be the most sensitive reactions characteristic of acetone. Any tests for acetone made with any technic calling for rubber parts or connections, are therefore liable to prove misleading.

April 15, 1921, **28**, Surgical Section No. **4**

*Eventration and Ventral Hernia. O. Cignozzi.—p. 133.
*Intermetacarpolysis. O. Cipollino.—p. 138.
*Plastic Closure of Femoral Canal. A. Indelli.—p. 140.
*Treatment of Varicose Veins in Leg. U. Nobili.—p. 149.
*Malformation of Ureter. D. Pizzetti.—p. 160.
*Treatment of Congenital Megacolon. C. Viscontini.—p. 174.

Radical Treatment of Eventration and Ventral Hernia.—Cignozzi comments on the simplicity and the excellent results of Trotta's method which he has applied in 110 cases of postoperative eventration or large ventral hernia. The skin is incised in a very long ellipse and the skin and adipose tissue are detached from the aponeurosis, and removed, and the aponeurosis below is drawn together and sutured with stout silk. The first suture is taken quite a distance back from the edge, in sound tissue, 4 or 5 cm. above the eventration, and includes part of the muscle. The thread is then passed through the opposite aponeurosis to correspond, and as the threads are drawn up and tied the aponeuroses are coaptated and the anterior edges are doubled. There has been recurrence in only three of the cases and these were among the earliest. Some have been under observation for up to nine years. The ellipse of skin resected must be large, from 25 to 30 cm long with the more extensive lesions. The aponeurosis is least elastic in the liver and spleen region. He has been applying this same principle in fifteen cases of inguinal hernia in women, doubling up the aponeurosis in this way after excision of the sac, without trying to close the inguinal canal directly.

Reconstruction of Thumb.—Cipollino produced a new and useful thumb after the natural thumb had been shot away. He merely slit the soft parts in the first metacarpal space, deep enough to mobilize the first metacarpal bone, and sutured two pedunculated skin flaps around the latter. The flaps from the dorsal and palmar skin had the pedicles on opposite sides of the new thumb. The latter does its work well and with considerable power, so that this method, with anatomic healing in ten days, should be preferred, he declares, to all other methods for reconstruction of a working thumb.

Plastic Closure of Femoral Canal.—Indelli closes the canal with an autoflap from the femoral arch itself, as he explains with illustrations.

Treatment of Varicose Veins in Leg.—Nobili reviews ten years' experience with Schiassi's method of treating varicose veins by inducing an obliterating endophlebitis. This simple,

convenient and effectual treatment can be applied by any practitioner. The main trunk of the saphenous vein is isolated and severed at a point on the thigh about four fingers below the groin. The vein is isolated below the knee, also, and at this point a 1 per cent. solution of iodin is injected. The fluid injected upward pours out of the stump projecting from the thigh. This stump is then ligated and the skin sutured. Injected downward, the fluid works through the varicose veins. Spinal or general or local anesthesia is necessary. In some of the twenty-two cases described, a clump of veins was resected besides. In others, Nobili made supplementary injections of the fluid into other stretches of the veins directly through the skin, without incising it. Saphenectomy is unnecessary with this Italian method of suppressing the function of the vein.

Malformations of the Ureter.—Pizzetti reviews the literature on this subject and reports a case in which a fall had aggravated conditions, with resulting pyonephrosis.

Congenital Megacolon.—Viscontini took up some folds in the huge colon, according to Parlavecchio's method, and the young woman was restored to complete health after seven years of various disturbances from the megacolon. The enlargement affected only the transverse colon, which was 30 cm. in circumference and the walls in portions were up to 3 cm. thick. A series of interrupted sutures was taken through the serosa and muscular layers of the wall, over a stretch of 30 cm., the sutures about 2 cm. apart A second and third row of sutures were taken in addition, the wall being thus taken up in folds to bring the lumen to normal size, and the colon was fastened loosely to the aponeurosis. Daily defecation has been the rule during the year since.

Rivista Critica di Clinica Medica, Florence

March 25, 1921, **22**, No. 9

Cure of Gangrenous Process in Lung by Artificial Pneumothorax. F. Rodano.—p. 97.

Brazil Medico, Rio de Janeiro

April 9, 1921, **35**, No. 15

Three New Nematodes. L. Travassos.—p. 179.
*Ascaridiasis. Pedro Palermo.—p. 180. Conc'n.

April 16, 1921, **35**, No. 16

Treatment of Acne. R. Kehl.—p. 195.

April 23, 1921, **35**, No. 17

Transmission of Trypanosomas by Leeches. C. Pinto.—p. 205.

Ascaridiasis.—Palmero emphasizes anew that ascarids may give rise to symptoms simulating a number of morbid conditions, citing some typical instances. Among them is the case of a child with what seemed to be typhoid fever, but all the symptoms subsided after expulsion of 100 ascarids. Another child of 4 presented the classic picture of meningitis, but this also subsided after an effectual vermifuge. Two attempts with calomel and santonin had given no results, but immediate recovery followed oil of chenopodium with expulsion of 298 ascarids. He lists the various nervous, gastro-intestinal and other symptoms that may be induced by ascaridiasis, and remarks that the symptoms frequently appear in epidemic form and only examination of the stools will clear up the diagnosis. He declares in conclusion that examination of the stool should be the routine practice; the microscope will give the clue to many mysterious pathologic conditions.

Semana Médica, Buenos Aires

March 31, 1921, **28**, No. 13

*Arrhythmias. A. Vitón.—p. 361.
*Typhus in South America. R. Kraus and J. M. de la Barrera.—p. 371.
Prophylaxis of Tuberculosis. P. T. Panza.—p. 376.
*Heterobacteriotherapy and Protein Therapy. R. Kraus.—p. 377.
Eugenics and the War. R. Kehl.—p. 379.

Arrhythmias.—Vitón reviews the present conceptions of different forms of arrhythmia and says that the diagnosis and prognosis depend on the myocardium. Under 15, arrhythmia is usually of respiratory origin. Extrasystoles between the ages of 15 and 25 are connected with abuse of tobacco and other excesses, or with extremely excitable or neuropathic temperaments. Over 50, they generally warn of pathologic conditions in the myocardium and of auricular fibrillation later. Paroxysmal tachycardia shows that the heart is not quite normal, and that the work imposed on it must be graduated to correspond.

Typhus in South America.—Kraus and Barrera conclude from their research that the typhus in Peru, Bolivia, Argentina and Chile is identical with that in Europe and North America. Proteus X 19 agglutination seems to be constant in South America, but a negative reaction does not exclude typhus. A further biologic reaction which confirms the identity of typhus in South America is the "anamnestic reaction": For example, one man with typhoid agglutinated the proteus at 1:10,000 and the typhoid bacillus at 1:4,000. It was learned later that the man had lived in Russia until the last twelve years. In another case the proteus reaction at 1:200 in the course of measles was explained in the sailor, likewise, by a former residence in an endemic focus of typhus.

Heterobacteriotherapy and Protein Therapy. — Kraus describes the history of the application of nonspecific vaccines, etc., in treatment of disease, and relates his own experience with it. He claims that his work in 1914 gave the impulse to this line of research, opening a new field for therapeutics with nonspecific proteins.

April 7, 1921, **28**, No. 14

*Ovarian Tumors Complicating Pregnancy. M. T. F. de Gaudino.—p. 389.
*Bile Peritonitis. R. E. Donovan.—p. 403.
Injury of the Eyes and Workmen's Compensation. P. B. Ferro.—p. 406.

Ovarian Tumors Complicating Pregnancy.—Gaudino gives the details of ten cases of ovarian tumors complicating pregnancy, delivery or the puerperium. Cesarean section was required in two; in three the cyst was discovered and punctured through the vagina during delivery, which then proceeded undisturbed. In another case a gelatinous cyst ruptured during labor and was removed by a laparotomy two days after delivery, but the woman died from purulent peritonitis. In another case the tumors were removed through the vagina, both ovaries being found the seat of a dermoid cyst. Scarcely any ovarian tissue could be discovered and yet the woman had passed through two pregnancies. It seems best to remove an ovarian tumor when diagnosed early in a pregnancy, but later it is better to postpone the operation until after childbirth. Nearly four pages of bibliography are appended.

Bile Peritonitis.—In Donovan's case the peritoneum was found clogged with bile but no defect could be discovered in the bile apparatus, although calculi could be felt in the gallbladder. The condition of the heart compelled haste, and the gallbladder was merely cleared out and drained, and recovery was soon complete. The few cases of the kind on record are compared with this. The excellent results in his case confirm the advantages of palliative measures under these conditions.

Siglo Médico, Madrid

March 12, 1921, **68**, No. 3509

The Bile. V. Ribón (Bogota).—p. 237.
Serotherapy in Pneumococcus Infection. T. Morató Cárdenas.—p. 239.

Archiv für Kinderheilkunde, Stuttgart

April 5, 1921, **69**, No. 2

*Blood Sugar in Children. A. Mertz and E. Rominger.—p. 81.
*Vegetative Nervous System in Children. E. Friedberg.—p. 107. Begun in No. 1, p. 1.
Danger to Wetnurse from Latent Congenital Syphilis. F. Stradner.—p. 132.
Defect in Parietal Bone in Child. H. Cosack.—p. 135.
Recent Literature on Digestion in Infants. H. Davidsohn.—p. 142.

The Sugar Content of the Blood in Children.—Mertz and Rominger tabulate the findings in their numerous series of tests on healthy and sick children. The sugar content of the blood four hours after feeding averaged 0.081 per cent. in healthy infants, irrespective of age and mode of feeding. Absorption of a test dose of 30 gm. of dextrose from the gastro-intestinal tract was nearly inhibited by giving 0.5 gm. tannin. Absorption was least in infants that were of the dried-out type, while it was most pronounced in those with succulent bowel mucosa, as in the exudative diathesis, the doughy children and in dyspepsia. With liver derangement,

the hyperglycemia reaction to test ingestion of dextrose is retarded and attenuated. This anomalous response is particularly pronounced when both liver and kidneys are functionally below par.

Pharmacologic Tests of the Vegetative Nervous System in Children.—Friedberg gives the details of various tests applied to 72 children, including 12 healthy, 5 with spasmophilia, 3 with asthma, 2 with rachitis, and 5 with various disorders of endocrine origin. His conclusions are mainly negative. The findings in spasmophilia seem to indicate that tetany in children is essentially different from tetany in adults. Normal responses to the pharmacologic tests were sometimes obtained in the severest forms of rachitis. Disturbances of endocrine origin gave conflicting findings, probably from the interplay of several of the ductless glands. The exudative diathesis evidently is not a form of vagotonia in children, as some maintain.

Deutsche medizinische Wochenschrift, Berlin

April 28, 1921, **47**, No. 17

Simpler Culture Method for Weil Spirochetes. Manteufel.—p. 461.
Chronic Bacillary Dysentery. Strasburger.—p. 463. Cont'n.
Simplification of the Indicator Method. L. Michaelis.—p. 465.
Value of the Pirquet Cutaneous Reaction. Kretschmer.—p. 465.
*Bandageless Treatment of Wounds. Braun.—p. 466.
*Subcutaneous Infusion by the Drop Method. Strübing.—p. 469.
*Gout in Relation to the Nervous System. S. Cohn.—p. 470.
*Enuresis and Circulatory Disturbances. Bossert-Rollett.—p. 471.
Spasmodic Muscle Contraction and Blood Picture. Schaps.—p. 472.
Value of the Fürstenau Actinimeter. P. Keller.—p. 473.
Abortive Treatment of Syphilis. F. Lesser.—p. 474.
Turtle Tubercle Bacilli and Friedmann Treatment. F. F. Friedmann.—p. 474.
"Harmful Effects of the Friedmann Treatment" (Grass). R. Goepel.—p. 476. Idem. E. Blos.—p. 476.
Remarks on the F. F. Friedmann Articles. M. Kirchner.—p. 476. Idem. F. Klopstock.—p. 476. Idem. H. Grass.—p. 476.
Chinosol in Typhoid Fever. C. Heuser (Buenos Aires).—p. 477.
*Present Views on Pathogenesis of Appendicitis. Fischer.—p. 477.
Diagnosis of Tuberculosis in Children. L. Langstein.—p. 479.

Bandageless Treatment of Wounds.—Braun discusses the advantages and the indications for omission of a close dressing. Tight bandages may cause the wound secretion to be held back instead of being absorbed, and exert otherwise an unfavorable effect on the wound area, treating at times just the conditions under which decomposition of the wound secretion and infection with *B. pyocyaneus* take place. Under open treatment the wounds are easier to get at and inspect, and the sticking of the dressings is done away with. The wound needs, however, a loose protective covering, which may be kept from contact with the wound by the use of splints or bent wires or a frame. Material to absorb secretions should be placed where needed. An open-weave covering may be employed if it is best to keep the wound dry, or a close-weave cover may be used and a moist compress laid on or near the wound if a moist chamber is indicated. Braun recommends the bandageless treatment, in selected cases, in aseptic operative wounds closed by suture, fresh injuries without visible signs of infection, dirty or plainly infected wounds, phlegmons, suppurative wounds of nonphlegmonous character, bone fistulas, and in granulating wounds. He gives also a number of contraindications; for example, it would not be wise to confine a patient to the bed or keep him in an uncomfortable position if the ordinary dressings would allow him full freedom of movement; then, too, nervous, restless persons are not good subjects for bandageless treatment of wounds.

Subcutaneous Infusion by Drop Method.—Strübing reports the experience of the municipal hospital of Stettin in the numerous cases in which subcutaneous drip infusion of epinephrin was employed. He prefers subcutaneous to intravenous infusion partly because the former requires no incision, and it can be repeated as often as desired. While admitting that the effect of intravenous infusion is more intensive for the moment, he thinks that the subcutaneous application is in most cases quite sufficient, provided adequate doses of epinephrin are used. Only so many drops must fall as are readily absorbed, so that accumulation of fluid underneath the skin is prevented. This is necessary for dosage, and because infection cannot be prevented otherwise. The method gave the best satisfaction in cardiovascular weakness and in bronchial asthma. The technic is outlined.

Gout in Relation to the Nervous System.—On the basis of animal experimentation, Cohn states his belief that a precondition for the genesis of gout is an increase in the sodium salts found in the organism. This must find its expression in the nervous system, as the axis-cylinder is the only organ of the body that contains free sodium salt as well as sodium salts combined with albumin. Also clinical observations indicate that the nervous system is an important factor in the production of gouty deposits.

Enuresis and Disturbances of Circulation.—Bossert-Rollett thinks that too little attention is paid to the relation between enuresis and derangement of the circulation. In a series of cases in children she found a wide variation in the amount of urine voided at night and during the daytime. This condition did not seem to be occasioned by any pronounced affection of the kidneys or the heart, nor was it affected by the character of the diet. Under ordinary conditions the children suffered from nocturnal enuresis, but when allowed to remain in bed during the day there was no trouble either day or night. An explanation of this anomaly she finds in a circulatory disturbance, which is clinically evident in the feeble first heart sound.

The Pathogenesis of Appendicitis.—In discussing the etiology of appendicitis, Fischer relates his experience in China with this disease. In spite of the fact that intestinal parasites are widespread in China, acute appendicitis among the Chinese is extremely rare. During his six years of surgical activity in Shanghai he recalls only two cases of appendicitis in Chinese, although there were large numbers of other surgical cases. Among Europeans there seemed to be just as many cases proportionally as in Europe. The anatomic relationships about the appendix, to judge from necropsies, are not essentially different in the Chinese. Fischer thinks that this fact points away from helminths as a possible etiologic factor, and tends to incriminate the European diet, for among the Chinese the diet is more strictly vegetarian than among Europeans, among which class in China, constipation is of frequent occurrence.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

April, 1921, **54**, No. 4

*Influence of the Ovaries on Glycemia. O. Hürzeler (Berne).—p. 215
*Conception Control. B. Ottow (Dorpat).—p. 219.
*Clinical Phenomena of the Puerperium. C. Abernetty.—p. 227.
*Interpositio Uteri in Treatment of Prolapse. J. Peffer.—p. 236.
Laparotomy for High Cervicovesical Fistulas. E. Sachs.—p. 245.
*Present Status of Tuberculous Peritonitis. P. Wienecke.—p. 247.

Influence of the Ovaries on Glycemia.—Hürzeler relates that rabbits were injected with epinephrin until no further hyperglycemia developed. If the ovaries were then removed, transient high glycemia followed. This shows, he says, that the ovary has some influence on the sugar level in the blood.

Conception Control.—Ottow analyzes the biologic principles for eugenic birth control, and especially generative prophylaxis by vasectomy or autotransplantation of both testicles.

The Clinical Phenomena of the Puerperium.—Abernetty analyzes the most important clinical phenomena of the first five days after delivery in primiparae and multiparae. Fully 34 per cent. of the fifty women studied complained of subjective disturbances, pains in breast, axillae or sacrum, or chilliness. The temperature always rose slightly the third or fourth day, which he ascribes to the constant and regular infection, but as the organism conquers this the temperature goes down the fifth day.

Interpositio Uteri for Prolapse.—Peffer states that a permanent cure was realized in 92.4 per cent. of ninety-five cases of genital prolapse treated by interposition of the uterus. The literature shows an equally good proportion of permanent cures, up to 100 per cent.

Tuberculous Peritonitis.—Wienicke's conclusions from his study of the literature of the last twenty years are that treatment must be predominantly with hygiene and dieting. Operative measures may become necessary from vital indications, and should be considered in the ascitic form after failure of conservative measures. The outlook is less favorable in the adhesive form. The prognosis is almost inevitably grave with the ulcerating form. After operative measures, general treatment must be enforced with special care and energy.

Münchener medizinische Wochenschrift, Munich

April 29, 1921, **68**, No. 17

Conditions for Pathologic Tissue Formation. Walz.—p. 505.
Epidemiology of Epidemic Encephaltis. Kayser-Petersen.—p. 507.
Active or Passive Diastole? A. Weber.—p. 508.
The "Language" of Bees. K. von Frisch.—p. 509.
Intestinal Parasites in Bavaria. Jung and Sell.—p. 511.
Treatment of Empyema Fistulas. C. Ritter.—p. 513.
Tuberculin Treatment of Tuberculous Pleuritis. C. Stuhl.—p. 514.
Treatment of Chronic Arthritis with Sulphur. Meyer-Bisch.—p. 516.
Irradiation after Mammectomy for Cancer. H. Lossen.—p. 518.
Treatment of Incarcerated Hernia. K. Nikolaus.—p. 520.
Effect of Ovarian Secretions on Lactation. A. Weil.—p. 520.
Inadequate Food in Relation to Suprarenal Function. Peiser.—p. 521.
Diabetes Mellitus. E. Tuenniessen.—p. 523.

Wiener klinische Wochenschrift, Vienna

April 21, 1921, **34**, No. 16

Neuromalike Formation in Appendix. Maresch.—p. 181.
Radium Therapy. G. Riehl.—p. 182.
Combined Glucose and Arsphenamin Treatment. V. Pranter.—p. 183.
*Treatment of Psoriasis. O. Sachs.—p. 185.
Therapeutic Import of Acidosis in Diabetes. Salomon.—p. 185.
*Blood Pressure under Epinephrin plus Papaverin. K. Csépai.—p. 186.

Treatment of Psoriasis with Intravenous Injections of Sodium Salicylate.—Sachs reports that since 1918 he has successfully treated thirty-four cases of psoriasis vulgaris with intravenous injections of a 20 per cent. solution of sodium salicylate. Only recent cases proved to be adapted to the treatment. The treatment of recent cases with baths and ointments he has found to be superfluous. The first injection was 2 gm., the second 3 gm., and the third 4 gm., which was usually the maximal dose. From six to eight injections, extending over a period of three or four weeks, generally suffice, but the efflorescence does not disappear until two or three weeks after the last injection.

Effect of Papaverin on Increased Blood Pressure in Man as Induced by Epinephrin.—Csépai reports that in his animal experiments papaverin counteracted increase of blood pressure induced by epinephrin, but that in man in most cases it caused a still further increase, although the effect was not uniform. Not in a single instance could a reduction of increased blood pressure induced by epinephrin in man be noted, which is directly opposed to the results of Pal's investigations.

Zentralblatt für Chirurgie, Leipzig

April 16, 1921, **48**, No. 15

*Spasm of the Ileocecal Valve Sphincter. Heile.—p. 506.
*Results of Treatment of Tuberculous Glands. H. Tichy.—p. 512.
Bactericidal Qualities of Procain. E. Seitz.—p. 514.
Calvé-Legg-Perthes Disease and Pes Adductus in Fetal Chondrodysplasia. S. Weil.—p. 517.

Diagnosis and Treatment of Spasm of the Ileocecal Valve Sphincter.—Heile's first typical case was a soldier on whom appendectomy had been performed but which left him with the same symptoms as before, periodic darting pains in the right side. Over the cecum he felt a certain protuberance and a kind of elastic rigidity such as might characterize contraction of the cecum. Other patients later described the pains more as a periodic cramp, but the twinges seemed to predominate. In only two cases were radiating pains complained of. As the soldier above mentioned felt pain only when in the cecal region a rigid loop was palpable, Heile operated on the supposition that adhesions were causing the trouble. He was surprised to find the peritoneum normal. He then completely severed the ileocolic muscle, and the soldier was immediately and permanently relieved of his symptoms. Twelve similar cases have been seen since that time, and in every instance the appendix had been removed on the assumption of appendicitis, but appendectomy had in no case relieved or even changed the symptoms. Three women had also had an operation on the adnexa later but without relief. In all twelve cases the cecum was more or less movable. The general condition of the patients was bad, and they were all suffering from constipation. Some were generally regarded as nervous and hysterical. By a type of bauhinoplasty, which he describes with five illustrations and which consisted essentially of the transverse division of the ileocolic muscle, he was able to effect a radical symptomatic cure in every instance. Some of the cases are now three years old and the symptoms have not returned. In differentiation in doubtful cases he has had to rely on the subjective symptoms and the contraction and relaxation of the cecum under the palpating hand.

Operative Versus Roentgen-Ray Treatment of Tuberculous Glands.—Reexamination two years or more later showed recurrence in 74 per cent. of thirty-one cases of tuberculous glands treated by operative measures, but there was recurrence in only 11 per cent. of twenty-seven that had been treated by raying. In another group of eight operative and twenty-five rayed cases, the percentage of recurrences was 75 for the former and 12 for the latter. All were selected cases with enlarged or softened glands, but no fistulas.

Zentralblatt für Gynäkologie, Leipzig

April 16, 1921, **45**, No. 15

*Experiences with Symphysiotomy. J. Quante.—p. 513.
*Symphysiotomy or Cesarean Section? B. Schwarz.—p. 521.
Indications for Ventrifixation of the Uterus. R. Hastrup.—p. 527.
*Treatment of Puerperal Fever with Human Serum. Bartram.—p. 529.
Case of Criminal Abortion with Complications. Hornung.—p. 535.

Experiences with Symphysiotomy.—Quante relates the experience of the Dortmund Woman's Hospital in twenty-eight cases of symphysiotomy. From 1906 to 1913 pubiotomy was employed in twenty-three cases, but was given up on account of the secondary injuries and danger of infection. He says that symphysiotomy is, within proper limits, a justifiable operation, but that the indications and the prognosis present many difficulties. In the case of primiparae the indications for the operation should be drawn very close, and it should not be performed unless normal labor is present, and then only if there is not too big a discrepancy between the size of the head of the child and the width of the pelvis so that a spontaneous birth can be counted on with certainty. In the case of multiparae he thinks the operation, with a moderately narrow pelvis, will save the lives of many children. Here, too, spontaneous birth must be sought for, although he admits that he attained it in only eight cases out of twenty. In cases free from infection, Quante regards cesarean section unconditionally preferable to symphysiotomy, especially for primiparae. In his 200 cases of cesarean section there were only three deaths. There was no disturbance in the gait after the pelvis-enlarging operations in any instance, but the incision suppurated in two cases, with severe thrombophlebitis in one, compelling incision later. One of the four primiparae required high forceps to complete the delivery, and the urethra was torn and the clitoris and vicinity badly lacerated. In another case a large hematoma developed in one labium, and in another the cartilage was found ossified.

Symphysiotomy or Cesarean Section.—Schwarz gives his reasons for preferring symphysiotomy to cesarean section in narrow pelvis in which surgical intervention is indicated. The mortality and morbidity of the mothers are less. The length of treatment is shorter. Mortality of the children is, to be sure, 25 per cent. higher, but, to make up for this fact, fertility after symphysiotomy is unimpaired, whereas by cesarean section it is reduced at least one half. Symphysiotomy permits the surgeon to wait the extreme limit of time for a spontaneous birth. The technic of symphysiotomy is easy and simple, and the operation requires only from one to two minutes, and can be performed under infiltration anesthesia. Ten per cent. of later births are spontaneous. Infection is not a contraindication to symphysiotomy. The slight danger of injury to the bladder or the urethra and of later prolapse, which threaten in symphysiotomy, is more than outweighed by the greater dangers of cesarean section, higher mortality, rupture of uterus in following births, and formation of adhesions and hernia. In his total of 113 symphysiotomies (Mainz Midwives' School) the bladder was injured in five cases, and four in this group were left with incontinence of urine. This was corrected by a plastic operation in two instances, and one woman controls the incontinence with a pessary. A hematoma developed in the labia in four cases, and there has been prolapse later in six.

Treatment of Puerperal Fever with Human Serum.—Bartram found that homogenous and own blood serums introduced parenterally exerted a beneficial influence in puerperal fever. The serum of the pregnant and of the convalescent from a fever of septic origin seem especially adapted to this therapy.

Zentralblatt für innere Medizin, Leipzig

April 2, 1921, **42**, No. 13

*Protein Therapy (a Survey). F. E. R. Loewenhardt.—p. 258.

April 23, 1921, **42**, No. 16

Venesection in Chloremia. J. Löwy.—p. 330.

Parenteral Protein Therapy.—Loewenhardt gives a résumé of what has been accomplished thus far in this field in Germany, and concludes that the whole problem is still too little developed for exact rules for the general use of proteins in this line. He states, however, that without doubt in selected cases good results may be secured in many different diseases. At present it is merely a question of collecting the observations of various investigators and the results of further experimental study before the method can be made available to the general practitioner.

Mededeel. v. d. Burg. Geneesk. Dienst, Java

1920, No. 6 and No. 7. Parallel Dutch-English Edition

*Transmission of Malaria by Mosquitoes. B. Hylkema.—p. 50.
*Survival of Stegomyia Fasciata at Low Temperature. P. C. Flu.—p. 98.

Transmission of Malaria by Ludlowi Mosquito.—Hylkema reports that he succeeded in infecting from 20 to 50 per cent. of captured specimens of *Myzomyia ludlowi* with the parasite of quartan malaria. The mosquito was then capable of transmitting the disease to man in from eleven to thirteen days. The period of incubation until the prodromal attack amounted to twelve days. The Belawan district was particularly favorable for this research as the ludlowi is the only anopheles found there, and quartan malaria was found in 29 per cent. of the children and subtertian in 21 per cent. The corresponding figures for adults were 26 and 21.5 per cent.

Survival of Stegomyia Fasciata at Low Temperature.—Flu's tests demonstrated that the yellow fever stegomyia is killed in twenty-four hours by a temperature below 6 C. A temperature between 7 and 10 C. benumbs it, but four days of this are required to kill it. His research was undertaken to determine the danger from these mosquitoes accidentally brought on board ship on fruit, etc., and placed in the refrigerator.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

March 26, 1921, **1**, No. 13

*Blood Pigment Versus Porphyrin. I. Snapper and Dalmeyer.—p. 1676.
*Helminthiasis. A. Verschoor.—p. 1682.
*Allergic Immunity and Anaphylaxis. D. Klinkert.—p. 1685.
Confusional Mental States. F. P. Muller.—p. 1692.

Transformation of Blood Pigment into Porphyrin.—This communication from Snapper's clinic relates that in 16 per cent., of forty-one gastric cancer patients, only iron-free hematin—porphyrin—was found in the stools. Tests for occult blood with negative findings must be supplemented by tests for porphyrin to avoid blunders. In 25 per cent. of thirty-one cases of gastric or bowel ulcer, there was no trace of occult blood, but in 9 per cent., iron-free hematin was found. In seventy-three cases of various other pathologic states, no blood was found in 54 per cent, but in 7 per cent the reaction was positive for porphyrin alone, and in the rest for hematin. These data confirm that occult blood in the stools is not a reliable sign of benign ulcer in the digestive tract, but that the absence of the porphyrin spectrum in the stool extract testifies against malignant disease.

Helminthiasis.—Among some blunders in diagnosis related by Verschoor is the case of an abdominal tumor in a woman of 70 which subsided when ascarids were discovered and 89 voided. Another instance was a boy of 5 long under treatment for malaria; pain around the umbilicus and the child's picking at its nose first suggested helminths, and a vermifuge cured the "malaria." Verschoor adds that the anus and the finger nails should always be washed with soap on arising and after defecation to prevent reinoculation with oxyurids.

Anaphylaxis.—Klinkert thinks that we are on the wrong track in the present conception of anaphylaxis. The anaphylactic shock is only the pathologic exaggeration of allergy. It occurs when in some unnatural manner alien serum is injected directly into the blood stream, and thus forces the nervous defensive mechanism to a sudden hasty response. It is a man-made artificial product.

April 2, 1921, **1**, No. 14

*The Otto-Chrobak Pelvis. J. B. Waller.—p. 1830.
*Hysterectomy for Puerperal Sepsis. H. F. Lumentut.—p. 1843.
Case of Primary Gastric Sarcoma. D. Klinkert.—p. 1850.
Epilepsy at 44. J. de Jongh.—p. 1852.
Spinoza's Medical Friends. I. Fischer.—p. 1856.
*Medical Topics in Netherlands Art. G. van Rijnberk.—p. 1874.

The Otto-Chrobak Pelvis.—Waller adds another to the fifteen cases on record in which the acetabulum protruded into the pelvis. His patient was a woman of 20 with bilateral Otto-Chrobak pelvis. The extreme protrusion had been exaggerated on one side by fracture of the acetabulum from a trauma too slight to have affected normal bone.

Hysterectomy for Puerperal Sepsis.—Lumentut reports three cases of threatening puerperal sepsis with repeated rigors and bad pulse in which prompt recovery followed abdominal hysterectomy. There is every reason, he reiterates, to manage a case of puerperal sepsis the same as sepsis under other conditions and from other causes.

Medical Subjects in Art.—In this fourth instalment, van Rijnberk reproduces nine prints from the sixteenth and seventeenth centuries, all portraying the pulling of teeth.

Acta Medica Scandinavica, Stockholm

May 6, 1921, **54**, No. 6

*Pneumococcus Types. O. Thomsen and S. Christensen.—p. 501.
*Meningococcal Infection. O. Thomsen and F. Wulff.—p. 513.
*Pathology of Parathyroid Glands. H. Bergstrand.—p. 539.
*Inversion of Abdominal Reflexes. G. H. Monrad-Krohn.—p. 601.

Types of Pneumococci.—Thomsen and Christensen describe (in English) research on mice which has confirmed the identity of types I to III found in America and in Denmark.

Meningococcal Infection.—A similar article by Thomsen and Wulff was summarized in THE JOURNAL, July 5, 1919, p. 73. (This one is in English.)

Pathology of the Parathyroids.—Bergstrand gives six pages of bibliographic references and compares with this literature some cases of tumor or hyperplasia of the parathyroids he found in 200 cadavers examined. In one case the parathyroids were much enlarged while the thyroid was partially atrophied, suggesting compensatory hyperplasia. Tumor-like enlargement of the parathyroids has been found so often accompanying osteomalacia that a connection between them seems plausible, although it is not constant in osteomalacia. In other cases the parathyroid tumor accompanied nephritis, tetany, eclampsia or epilepsy. Bergstrand has been examining the parathyroids in fifty cases of nephritis recently, and found one or more enlarged in ten cases. In one in this group there was considerable calcium in the kidneys. Little is known in regard to the elimination of calcium by the kidneys in nephritis. The cases on record of "renal dwarfism" and of chronic nephritis with genu valgum confirm the possibility of a connection between kidney functioning and the osteomalacia responsible for genu valgum. Several instances of death after an operation for genu valgum have been published, including Erdheim's case in which a tumor was found in one parathyroid. He listed this case as rachitis, but Bergstrand thinks it should be classed as "renal dwarfism." (In German.)

Case of Inversion of Abdominal Reflexes. — Necropsy revealed a large glioma in the left semioval center of the boy of 16 with bilateral inversion of the abdominal reflexes. (In English.)

Hospitalstidende, Copenhagen

March 23, 1921, **64**, No. 12

*Restriction of Fluids with Bronchiectasia. F. Vogelius.—p. 177.

Restriction of Fluids in Treatment of Bronchiectasis.—Vogelius has only one case to report but the benefit was striking. The diagnosis was fetid bronchitis, anemia, and bronchiectasia but no signs of tubercle bacilli. The amount of fluid allowed was reduced to 500 or 700 c.c. during the day. Once a week a larger amount was allowed for one day. The sputum dropped to 75 c.c. from the previous 200 up to 500 c.c. In a month it dropped to 35 and by the end of the second month expectoration had practically ceased. After three months of this restriction of fluids the man of 63 was dismissed in good condition with all restrictions removed, and was in constant good health for two years, increasing 5 kg.

in weight. The treatment makes considerable demands on the will power, but with intelligence and a little opium to tide the patient past the first days of thirst, no trouble was experienced in this case. His experience confirms the excellent results reported by Singer and by Hochhaus in the majority of their nine and fourteen patients. Vogelius has also benefited many patients with chronic bronchitis by raising the foot of the bed for a few hours each day. This brings the stagnating secretions into contact with more sensitive portions of the bronchial mucous membrane, and the secretions are then coughed up. Laboring men have been able to get rid of large amounts of fetid secretions in this way and been free from coughing and expectoration at their work during the day. But this is only palliative; restriction of intake of fluids attacks the cause. The diet must be light and nourishing with green vegetables and fruit, and the course usually has to be kept up for from four to six weeks. The diuresis and the weight fall off at first but this is usually transient. Of course, this treatment should not be attempted with kidney disease or on suspicion of tuberculosis.

March 30, 1921, **64**, No. 13

*Dysregulatio Ammoniaci. E. J. Larsen.—p. 193.
Abortion from Fourth to Seventh Month. Trier.—p. 201. Conc'n No. 14, p. 209.

Loss of Neutrality Balance.—Larsen describes four cases out of a total of thirty-six in which the regulation of the neutrality of the tissues was evidently upset. This dysregulatio ammoniaci, as he calls it, seems to be a feature of epilepsy, but in these cases the underlying disturbances were traumatic neurosis, psychogenous psychosis, psychopathic constitution, hysteria or melancholia. The symptoms in all besides the signs of regulation disturbance, were mydriasis, headache, dread, vasomotor sensations, depression, and nightmares. The tendency to wandering away with or without amnesia, dipsomania, confusion and vertigo are other features of this clinical group which is evidently closely allied to epilepsy.

April 6, 1921, **64**, No. 14

*Bacteriophagum Intestinale. E. Gjørup.—p. 214. Conc'n No. 15, p. 234.

The Intestinal Bacteriophagum.—Gjørup reviews what has been published on the subject of d'Herelle's bacteriophagum. He is inclined to agree that in this we have for the first time a means to render a filterable virus macroscopically evident. Stool from a dysentery convalescent is mixed with broth and filtered through porcelain after standing eighteen hours. The filtrate is added to a broth culture of Shiga's bacillus cultivated from the same patient. An agar plate is then inoculated with this broth culture. After a few hours or days the colonies of dysentery bacilli seem to be annihilated at points. Patches all over the plate can be seen, from 1 to 5 mm. in diameter, with no dysentery bacilli in these patches. The size and number of these patches depend on the amount of filtrate that was added in the first place. This phenomenon d'Herelle explains as the result of the growth of an invisible, filterable virus which lives on the dysentery bacillus as an obligatory parasite. This explains the name he gave it, bacteriophagum intestinale. Gjørup thinks that this points the way for further research on other ultravisible viruses. He has demonstrated the presence of the bacteriophagum in some cases of transient diarrhea and of typhus in this way. He cites the various objections that have been made to this interpretation, and shows that Kabeshima's suggestion that it is from catalytic action is untenable.

Hygiea, Stockholm

April 16, 1921, **83**, No. 7

*Epidemic Encephalitis. R. Holmström.—p. 213. Conc'n No. 8, p. 241.

Epidemic Encephalitis.—Holmström analyzes his twenty-seven cases of epidemic encephalitis with special regard to the nervous and mental symptoms. All recovered but six. One patient had a new period of hallucinations and paresthesias six months after the first onset. Another developed a new weakness in the arms four months after the onset. In Economo's case that lasted for two years, necropsy showed both old and recent inflammatory lesions. Holmström's experience testifies to the importance of bed rest in treatment and of physical and mental repose, kept up as long as possible. Some of his patients had been sent to the hospital with the diagnosis of influenza, paratyphoid, polyneuritis, ileus, appendicitis, perforated gastric ulcer or hypertrophied prostate (from the abrupt anuria). All had fever, and there had been a longer or shorter period of somnolency in all, and also nystagmus, and the majority had diplopia. These were the only features in common, the rest of the clinical pictures being as numerous and diverse as there were patients.

Norsk Magazin for Lægevidenskaben, Christiania

May, 1921, **82**, No. 5

*Congenital Syphilis in Second Generation. E. Bruusgaard.—p. 353.
Case of Tuberculoid Leprosy. E. Bruusgaard.—p. 359.
*Curability of Tuberculous Meningitis. G. Anderssen.—p. 364.
Benefit from Transfusion of Blood plus Splenectomy in Case of Pernicious Anemia. K. Haugseth.—p. 366.
Ocular Symptoms in Epidemic Encephalitis. B. Malling.—p. 369.
*Familial Angina Phlegmonosa. F. Leegaard.—p. 381.

Congenital Syphilis in the Second Generation.—The grandmother is being treated for a gummatous tertiary periostitis, the mother for periostitis of both tibias, and the boy of 8 has fan-shaped deep scars extending from the corners of the mouth, with a 2 plus Wassermann reaction. The mother during the pregnancy had tertiary ulcerations and keratitis. This is the fifth thoroughly studied case of congenital syphilis in the second generation at the Christiania Hospital.

Curability of Tuberculous Meningitis.—Anderssen reports two cases in which the diagnosis of tuberculous meningitis seemed beyond question in the boy of 15 and girl of 7 but the boy recovered with no sequelae except extreme strabismus. The disease in the girl improved and the child was sent back to school in two weeks, in spite of the physician's protest, and she died about a month later.

Familial Peritonsillar Abscess.—Leegaard relates that of his 52 male and 68 female patients with angina phlegmonosa, 76 of the 154 other members of the families had presented a similar throat disease at some time. The 73 patients with recurrence of the suppuration had 55 other members of the families with the disease and only 18 members free from it. This familial occurrence seems to be a special feature of peritonsillar abscess, and he theorizes to explain the anatomic reason.

Ugeskrift for Læger, Copenhagen

May 5, 1921, **83**, No. 18

*Auricular Fibrillation and Quinidin. K. Faber.—p. 577.
The Statements of Medicolegal Experts. J. Bock.—p. 584.

Quinidin in Treatment of Auricular Fibrillation.—Faber extols the value of quinidin as a means to arrest auricular fibrillation and the resulting arrhythmia in a large proportion of cases. Testimony is accumulating in this line, and Vetlesen has given a vivid description of its effect on distressing perpetual arrhythmia in his own person. Faber reports an instructive case in a man of 59 with high blood pressure but no sign of kidney or valvular disease, although the left ventricle was hypertrophied. The auricular fibrillation had been continuous for the last three months and intermittently before that. The electrocardiograms showed typical continuous arrhythmia without contractions of the auricle, and the pulse showed a pronounced deficit. Quinidin was given in a single dose of 1.20 gm. and the next day the same amount was given three times, dissolved in sulphuric acid mixture. The following day the dose was 30 cg. and the day after that 45 cg. During these five days no modification of the arrhythmia could be detected, but the sixth morning the arrhythmia had vanished. Under two weeks' further observation the pulse was regular, between 64 and 80, without deficit; no dyspnea, and the man was dismissed with earning capacity restored, free from subjective disturbances except that the arrhythmia had been succeeded by ventricular extrasystoles. These became less frequent thereafter; after two months only about one a week. In a second case, in a woman of 57 with old chronic heart disease, ascites and edema besides the fibrillation, no benefit was realized from a systematic course of this drug, in pills, up to 2 gm. a day. From the experiences to date, success can be counted on, Faber remarks, in about 66 per cent. of the cases.